



# **STIC Search Report**

## **EIC 1700**

**STIC Database Tracking Number: 164845**

**TO: Amanda Walke**  
**Location: REM 9D64**  
**Art Unit : 1752**  
**September 23, 2005**

**Case Serial Number: 10/820605**

**From: Usha Shrestha**  
**Location: EIC 1700**  
**REMSSEN 4B28**  
**Phone: 571/272-3519**  
**usha.shrestha@uspto.gov**

### **Search Notes**

The Claim 1 has shown that all the monomers are attached together to form one polymer and specification also mentioned reacting them together to make the final product, but the components used to make the polymer are indexed differently in CAS registry file than what Claim 1 reads. Since, the polymers are indexed as its monomer in CAS registry file, so I had to use the registry numbers and also the component registry numbers listed on applicant's publication for this search.



# STIC Search Results Feedback Form

**EIC17000**

Questions about the scope or the results of the search? Contact *the EIC searcher* or contact:

Kathleen Fuller, EIC 1700 Team Leader  
571/272-2505 REMSEN 4B28

## Voluntary Results Feedback Form

- I am an examiner in Workgroup:  Example: 1713  
➤ Relevant prior art **found**, search results used as follows:

- ☐ 102 rejection
- ☐ 103 rejection
- ☐ Cited as being of interest.
- ☐ Helped examiner better understand the invention.
- ☐ Helped examiner better understand the state of the art in their technology.

Types of relevant prior art found:

- ☐ Foreign Patent(s)
- ☐ Non-Patent Literature  
(journal articles, conference proceedings, new product announcements etc.)

- Relevant prior art **not found**:

- ☐ Results verified the lack of relevant prior art (helped determine patentability).
- ☐ Results were not useful in determining patentability or understanding the invention.

Comments:

Drop off or send completed forms to EIC1700 REMSEN 4B28



## SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: Amanda Walker Examiner #: 75063 Date: 9/6/05  
 Art Unit: 1752 Phone Number 301-2-1357 Serial Number: 10/820605  
 Mail Box and Bldg/Room Location: PEM 4D24 Results Format Preferred (circle): PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.

\*\*\*\*\*  
 Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: Bird Suit Attached

SCIENTIFIC REFERENCE BR  
 Sci & Tech Inf. Cntr

Inventors (please provide full names):

CEP REU

Earliest Priority Filing Date:

Pat. & T.M. Office

\*For Sequence Searches Only\* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

Please search for a phenolic resin comprising units of formula I, II, AND III.  
 All formulas appear on claim one and are attached. Thank you.

## STAFF USE ONLY

## Type of Search

## Vendors and cost where applicable

Searcher: <u>W/L</u>	NA Sequence (#) _____	STN <u>8274.01</u>
Searcher Phone #: _____	AA Sequence (#) _____	Dialog _____
Searcher Location: _____	Structure (#) _____	Questel/Orbit _____
Date Searcher Picked Up: <u>9/22/05</u>	Bibliographic _____	Dr.Link _____
Date Completed: <u>9/23/05</u>	Litigation _____	Lexis/Nexis _____
Searcher Prep & Review Time: <u>200</u>	Fulltext <u>X</u>	Sequence Systems _____
Clerical Prep Time: <u>30</u>	Patent Family _____	WWW/Internet _____
Online Time: <u>150</u>	Other _____	Other (specify) _____

GAU: 1752

10/820605  
Classification: 430/270.100  
Status: 30 - DOCKETED NEW CASE - READY FOR EXAMINATION  
Title: COLOR-DEVELOPING AGENT RESIN COMPOSITION, EMULSION THEREOF AND METHOD FOR PREPARING THE SAME

Examiner: WALKER, AMANDA  
Inventor: LIU, ZONGLAI, et al

Bib Data report

**Application Title:** COLOR-DEVELOPING AGENT RESIN COMPOSITION, EMULSION THEREOF AND METHOD FOR PREPARING THE SAME

**Application Num:** ☐ (in phx) 10/820605 **Filing Date:** 04/08/2004 **Effective Filing:** 04/08/2004  
(Location History) (Foreign/Continuity Data)

**Status:** 30/DOCKETED NEW CASE - READY FOR EXAMINATION **Status Date:** 07/08/2005

**Patent Number:** Not Issued **Issue Date:** N/A **Date of Abandonment:** N/A  
**Confirmation Number:** 8191 **PALM Location:**

**Examiner:** 75663 WALKER, AMANDA (Assignment Data) **Group Art Unit:** 1752 **Class/Subclass:** 430/270.100

**State or Country:** CHINA **Sheets/Drawing:** 0 **Total Claims:** 24 **Independent Claims:** 3

**Inventors:**

**Last name, First name:** **City:** **Country or State:**

LIU ZONGLAI	XINXIANG CITY	CHINA
GUO CHUNXUAN	XINXIANG CITY	CHINA
ZHANG WEI	XINXIANG CITY	CHINA
LIU YUZHU	XINXIANG CITY	CHINA

GAU: 1752

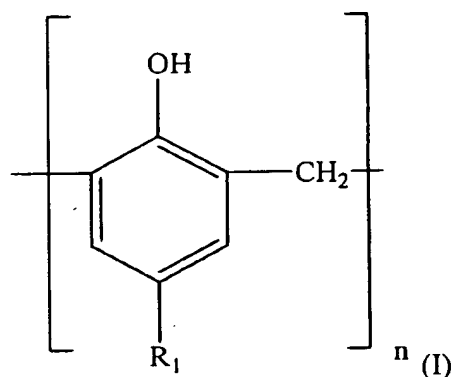
10/820605  
Classification: 430/270.100  
Status: 30 - DOCKETED NEW CASE - READY FOR EXAMINATION  
Title: COLOR-DEVELOPING AGENT RESIN COMPOSITION, EMULSION THEREOF AND METHOD FOR PREPARING THE SAME

Bib Data report

Attorneys: <u>ALL</u> Attorney Docket No: <u>9363-4</u>	
Interference No:	Lost Case: No
Unmatched Petition: No	L&R Code: 1

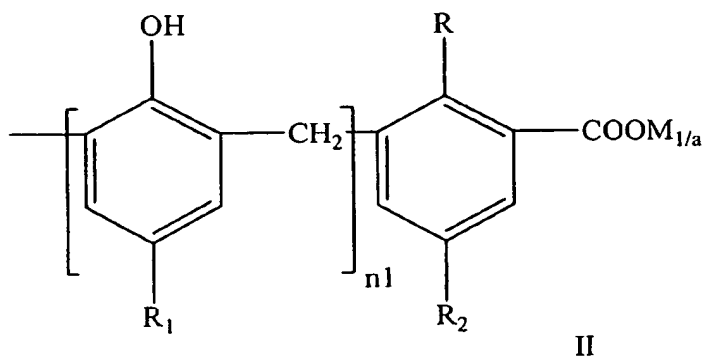
In the Claims:

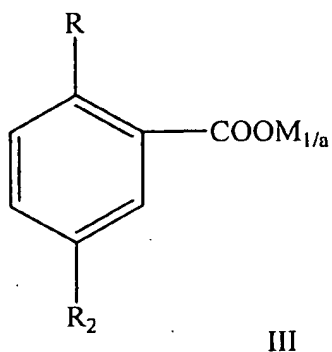
1. (Previously Presented) A color-developing agent resin composition comprising:  
 Component 1: a phenolic resin comprising formula I



wherein n is an integer from 1 to 100; and

Component 2: a blend of graft copolymers of a phenolic resin and a multivalent metal salt polymer of a substituted aryl carboxylic acid, wherein at least a portion of said graft copolymers comprise formulas II and III





wherein

$R$  is  $C_1$ – $C_4$  linear alkyl, hydroxy or halogen;

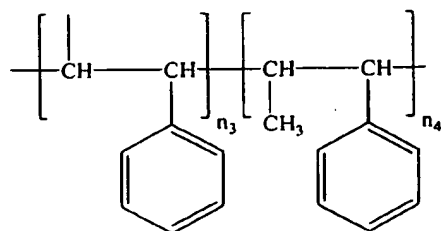
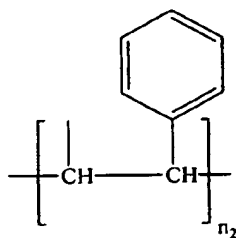
$R_1$  is individually  $C_1$ – $C_{12}$  linear or branched alkyl,  $C_1$ – $C_{12}$  halohydrocarbyl,  $C_6$ – $C_{12}$  aryl,  $C_7$ – $C_{12}$  aralkyl;

$n_1 = 1$ – $2$

$M$  is a multivalent metal ion;

$a$  represents the valence of  $M$ ; and

$R_2$  is



wherein  $n_2$  is an integer from 1–100;  $n_3$  is an integer from 1–100; and  $n_4$  is an integer from 1–100.

2. (Previously Presented) The color-developing agent resin composition of claim 1, wherein the content of the component 1 comprises about 5–50 % by weight, and component 2 comprises about 95–50 % by weight of the color-developing agent resin composition.

3. (Previously Presented) The color-developing agent resin composition of claim 1, wherein the content of the component 1 comprises about 10–30 % by weight, and the content of the component 2 comprises about 90–70 % by weight of the color-developing agent resin composition.

4. (Previously Presented) A color-developing agent resin emulsion comprising:
- (1) the color-developing agent resin composition of claim 1; and
  - (2) an emulsifying agent.

5. (Previously Presented) The color-developing agent resin emulsion of claim 4, wherein the emulsifying agent is selected from the group consisting of a surfactant, a modified starch and a polyvinyl alcohol.

6. (Currently Amended) A method for preparing the color-developing agent resin composition of claim 1 comprising:

- (1) synthesizing the polymer of a substituted aryl carboxylic acid and an alkenyl benzene in the presence of a catalyst in an inert solvent by using a substituted aryl carboxylic acid or ester having a general formula (IV) and an alkenyl benzene as feedstocks, and reacting the polymer with a multivalent metal ion to form a multivalent metal salt polymer of substituted aryl carboxylic acid as an intermediate;



=> fil reg

FILE 'REGISTRY' ENTERED AT 11:19:33 ON 23 SEP 2005

=> d his

FILE 'HCAPLUS' ENTERED AT 09:55:20 ON 23 SEP 2005

L1           1 S US20050095526/PN  
            SEL RN

FILE 'REGISTRY' ENTERED AT 09:55:44 ON 23 SEP 2005

L2           12 S E1-E12  
L3           1 S 69-72-7/RN  
L4           1 S 26984-25-8/RN  
L5           2 S L3 OR L4  
L6           1 S 9003-53-6/RN  
L7           1 S 25988-52-7/RN  
L8           1 S 28552-25-2/RN  
L9           1 S 153175-40-7/RN  
L10          1 S 851190-85-7/RN  
L11          1 S 851190-86-8/RN  
L12          1 S 851190-87-9/RN  
L13          1 S 851218-91-2/RN  
L14          8 S L6-L13  
L15          1 S 9052-98-6/RN  
L16          1 S 25820-85-3/RN  
L17          2 S L15-L16

FILE 'HCAPLUS' ENTERED AT 10:03:53 ON 23 SEP 2005

L18          24978 S L5  
L19          106475 S L14  
L20          463 S L17  
L21          2 S L18 AND L19 AND L20  
L22          1 S L1 AND L21

FILE 'STNGUIDE' ENTERED AT 10:05:04 ON 23 SEP 2005

FILE 'HCAPLUS' ENTERED AT 10:06:46 ON 23 SEP 2005

L23          694 S L19(L) PHENOL?  
L24          1 S L23 AND L18  
L25          4227 S L19 AND PHENOL?  
L26          27 S L25 AND L18  
L27          7 S L26 AND PHOTO?/SC,SX  
L28          9 S L21 OR L24 OR L27

FILE 'REGISTRY' ENTERED AT 10:12:02 ON 23 SEP 2005

FILE 'STNGUIDE' ENTERED AT 10:18:45 ON 23 SEP 2005

FILE 'REGISTRY' ENTERED AT 10:21:38 ON 23 SEP 2005

L29          2181 S 69-72-7/CRN  
L30          26098 S 50-00-0/CRN  
L31          70987 S 100-42-5/CRN  
L32          56 S 637-50-3/CRN  
L33          7 S 1515-78-2/CRN  
L34          4 S 824-90-8/CRN  
L35          71042 S L31-L34  
L36          306 S 92-69-3/CRN  
L37          123 S 27178-34-3/CRN  
L38          429 S L36-L37  
L39          0 S L38 AND L35 AND L30 AND L29

FILE 'HCAPLUS' ENTERED AT 10:30:03 ON 23 SEP 2005

L40 7528 S L19 AND ?PHENOL?  
 L41 31 S L40 AND L18  
 L42 4 S L41 NOT L26  
 L43 0 S L42 AND PHOTO?  
 L44 13 S L28 OR L42 OR L43  
 L45 9619 S L29  
 L46 82217 S L30  
 L47 275385 S L35  
 L48 963 S L38  
 L49 2 S L45 AND L46 AND L47 AND L48  
 L50 1 S L21 AND L49  
 L51 24122 S L47 AND ?PHENOL?  
 L52 20 S L51 AND L45 AND L46  
 L53 6 S L52 AND PHOTO?  
 L54 7 S L52 AND PHOTO?/SC,SX  
 L55 9 S L53 OR L54  
 L56 21 S L55 OR L44

FILE 'REGISTRY' ENTERED AT 10:52:53 ON 23 SEP 2005

L57 0 S L29 AND L30 AND L35

FILE 'REGISTRY' ENTERED AT 11:19:33 ON 23 SEP 2005

=> d que 156

L3 1 SEA FILE=REGISTRY ABB=ON PLU=ON 69-72-7/RN  
 L4 1 SEA FILE=REGISTRY ABB=ON PLU=ON 26984-25-8/RN  
 L5 2 SEA FILE=REGISTRY ABB=ON PLU=ON L3 OR L4  
 L6 1 SEA FILE=REGISTRY ABB=ON PLU=ON 9003-53-6/RN  
 L7 1 SEA FILE=REGISTRY ABB=ON PLU=ON 25988-52-7/RN  
 L8 1 SEA FILE=REGISTRY ABB=ON PLU=ON 28552-25-2/RN  
 L9 1 SEA FILE=REGISTRY ABB=ON PLU=ON 153175-40-7/RN  
 L10 1 SEA FILE=REGISTRY ABB=ON PLU=ON 851190-85-7/RN  
 L11 1 SEA FILE=REGISTRY ABB=ON PLU=ON 851190-86-8/RN  
 L12 1 SEA FILE=REGISTRY ABB=ON PLU=ON 851190-87-9/RN  
 L13 1 SEA FILE=REGISTRY ABB=ON PLU=ON 851218-91-2/RN  
 L14 8 SEA FILE=REGISTRY ABB=ON PLU=ON (L6 OR L7 OR L8 OR  
 L9 OR L10 OR L11 OR L12 OR L13)  
 L15 1 SEA FILE=REGISTRY ABB=ON PLU=ON 9052-98-6/RN  
 L16 1 SEA FILE=REGISTRY ABB=ON PLU=ON 25820-85-3/RN  
 L17 2 SEA FILE=REGISTRY ABB=ON PLU=ON (L15 OR L16)  
 L18 24978 SEA FILE=HCAPLUS ABB=ON PLU=ON L5  
 L19 106475 SEA FILE=HCAPLUS ABB=ON PLU=ON L14  
 L20 463 SEA FILE=HCAPLUS ABB=ON PLU=ON L17  
 L21 2 SEA FILE=HCAPLUS ABB=ON PLU=ON L18 AND L19 AND L20  
 L23 694 SEA FILE=HCAPLUS ABB=ON PLU=ON L19 (L) PHENOL?  
 L24 1 SEA FILE=HCAPLUS ABB=ON PLU=ON L23 AND L18  
 L25 4227 SEA FILE=HCAPLUS ABB=ON PLU=ON L19 AND PHENOL?  
 L26 27 SEA FILE=HCAPLUS ABB=ON PLU=ON L25 AND L18  
 L27 7 SEA FILE=HCAPLUS ABB=ON PLU=ON L26 AND PHOTO?/SC,SX  
 L28 9 SEA FILE=HCAPLUS ABB=ON PLU=ON L21 OR L24 OR L27  
 L29 2181 SEA FILE=REGISTRY ABB=ON PLU=ON 69-72-7/CRN  
 L30 26098 SEA FILE=REGISTRY ABB=ON PLU=ON 50-00-0/CRN  
 L31 70987 SEA FILE=REGISTRY ABB=ON PLU=ON 100-42-5/CRN  
 L32 56 SEA FILE=REGISTRY ABB=ON PLU=ON 637-50-3/CRN  
 L33 7 SEA FILE=REGISTRY ABB=ON PLU=ON 1515-78-2/CRN  
 L34 4 SEA FILE=REGISTRY ABB=ON PLU=ON 824-90-8/CRN  
 L35 71042 SEA FILE=REGISTRY ABB=ON PLU=ON (L31 OR L32 OR L33  
 OR L34)

L40 7528 SEA FILE=HCAPLUS ABB=ON PLU=ON L19 AND ?PHENOL?  
 L41 31 SEA FILE=HCAPLUS ABB=ON PLU=ON L40 AND L18  
 L42 4 SEA FILE=HCAPLUS ABB=ON PLU=ON L41 NOT L26  
 L43 0 SEA FILE=HCAPLUS ABB=ON PLU=ON L42 AND PHOTO?  
 L44 13 SEA FILE=HCAPLUS ABB=ON PLU=ON L28 OR L42 OR L43  
 L45 9619 SEA FILE=HCAPLUS ABB=ON PLU=ON L29  
 L46 82217 SEA FILE=HCAPLUS ABB=ON PLU=ON L30  
 L47 275385 SEA FILE=HCAPLUS ABB=ON PLU=ON L35  
 L51 24122 SEA FILE=HCAPLUS ABB=ON PLU=ON L47 AND ?PHENOL?  
 L52 20 SEA FILE=HCAPLUS ABB=ON PLU=ON L51 AND L45 AND L46  
 L53 6 SEA FILE=HCAPLUS ABB=ON PLU=ON L52 AND PHOTO?  
 L54 7 SEA FILE=HCAPLUS ABB=ON PLU=ON L52 AND PHOTO?/SC,SX  
 L55 9 SEA FILE=HCAPLUS ABB=ON PLU=ON L53 OR L54  
 L56 21 SEA FILE=HCAPLUS ABB=ON PLU=ON L55 OR L44

=> fil hcap

FILE 'HCAPLUS' ENTERED AT 11:20:00 ON 23 SEP 2005

=> d l56 1-21 ibib abs hitstr hitind

L56 ANSWER 1 OF 21 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2005:394652 HCAPLUS

DOCUMENT NUMBER: 142:454343

TITLE: Color-developing agent resin composition,  
emulsion thereof, and method for preparing the  
same

INVENTOR(S): Liu, Zonglai; Guo, Chunxuan; Zhang, Wei; Liu,  
Yuzhu

PATENT ASSIGNEE(S): Peop. Rep. China

SOURCE: U.S. Pat. Appl. Publ., 9 pp.

CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	
US 2005095526	A1	20050505	US 2004-820605	2004 0408
WO 2005040242	A1	20050506	WO 2003-CN916	2003 1029

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA,  
 CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI,  
 GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG,  
 KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK,  
 MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU,  
 SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA,  
 UG, US, UZ, VC, VN, YU, ZA, ZM, ZW  
 RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM,  
 AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ,  
 DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL,  
 PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN,  
 GQ, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.:

WO 2003-CN916

A

2003  
1029

GI

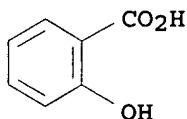
\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT  
\*

AB The present invention relates to a color-developing agent resin composition, which contains: (1) a **phenolic** resin represented by formula I ( $n = 1-100$ ;  $R_1 = C_1-12$  alkyl, halohydrocarbyl,  $C_6-12$  aryl,  $C_7-12$  aralkyl); and (2) a blend of graft copolymers of a **phenolic** resin and a multivalent metal salt polymer of a substituted aryl carboxylic acid, said graft copolymers are represented by II and III ( $R = C_1-4$  alkyl, hydroxy, halogen;  $n_1 = 1-2$ ;  $M =$  metal ion;  $R_2 = IV, V$ ). The present invention further relates to a resin emulsion containing the color-developing agent resin composition and a method for preparing the same. The color-developing agent resin composition and the color-developing agent resin emulsion of the present invention are used for no-carbon copying paper as special resin color-developing agents. They have advantages of not only fast developing at a low temperature and bright colors, but also heavy developing strength and good light-aging resistance of writing, and furthermore, their coatings are not easy to turn yellow when they are hold in the air, and the like.

IT 69-72-7DP, Salicylic acid, reaction product  
9003-53-6DP, Poly(Vinylbenzene), reaction product with salicylic acid 9052-98-6DP, tert-Butylphenol-formaldehyde copolymer, reaction product with salicylic acid 25820-85-3DP, p-Phenylphenol-formaldehyde copolymer, reaction product with salicylic acid 25988-52-7DP, reaction product with salicylic acid 26984-25-8DP, Formaldehyde-salicylic acid copolymer, reaction product with 4-chlorophenol. 28552-25-2DP, reaction product with salicylic acid 153175-40-7DP, reaction product with salicylic acid 851190-85-7DP, reaction product with p-phenylphenol 851190-86-8DP, reaction product with p-Chlorophenol 851190-87-9DP, reaction product with sec-octylphenol 851218-91-2DP, reaction product with tert-Butylphenol  
(color-developing agent resin composition for emulsion)

RN 69-72-7 HCAPLUS

CN Benzoic acid, 2-hydroxy- (9CI) (CA INDEX NAME)

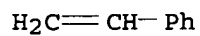


RN 9003-53-6 HCAPLUS

CN Benzene, ethenyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 100-42-5  
CMF C8 H8



RN 9052-98-6 HCAPLUS  
CN Formaldehyde, polymer with (1,1-dimethylethyl)phenol (9CI) (CA INDEX NAME)

CM 1

CRN 27178-34-3  
CMF C10 H14 O  
CCI IDS

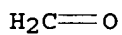


D1-OH

D1-Bu-t

CM 2

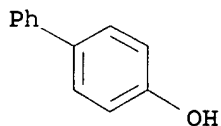
CRN 50-00-0  
CMF C H2 O



RN 25820-85-3 HCAPLUS  
CN Formaldehyde, polymer with [1,1'-biphenyl]-4-ol (9CI) (CA INDEX NAME)

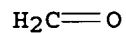
CM 1

CRN 92-69-3  
CMF C12 H10 O



CM 2

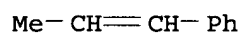
CRN 50-00-0  
CMF C H2 O



RN 25988-52-7 HCAPLUS  
CN Benzene, 1-propenyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

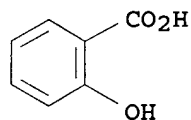
CRN 637-50-3  
CMF C9 H10



RN 26984-25-8 HCAPLUS  
CN Benzoic acid, 2-hydroxy-, polymer with formaldehyde (9CI) (CA INDEX NAME)

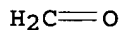
CM 1

CRN 69-72-7  
CMF C7 H6 O3



CM 2

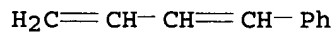
CRN 50-00-0  
CMF C H2 O



RN 28552-25-2 HCAPLUS  
CN Benzene, 1,3-butadienyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 1515-78-2  
CMF C10 H10



RN 153175-40-7 HCAPLUS  
CN Benzene, 1-butenyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 824-90-8

CMF C10 H12

Et-CH=CH-Ph

RN 851190-85-7 HCAPLUS

CN Formaldehyde, polymer with 1-butenylbenzene, graft (9CI) (CA  
INDEX NAME)

CM 1

CRN 824-90-8

CMF C10 H12

Et-CH=CH-Ph

CM 2

CRN 50-00-0

CMF C H2 O

H<sub>2</sub>C=O

RN 851190-86-8 HCAPLUS

CN Formaldehyde, polymer with 1,3-butadienylbenzene, graft (9CI) (CA  
INDEX NAME)

CM 1

CRN 1515-78-2

CMF C10 H10

H<sub>2</sub>C=CH-CH=CH-Ph

CM 2

CRN 50-00-0

CMF C H2 O

H<sub>2</sub>C=O

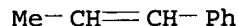
RN 851190-87-9 HCAPLUS

CN Formaldehyde, polymer with 1-propenylbenzene, graft (9CI) (CA  
INDEX NAME)

CM 1

CRN 637-50-3

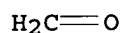
CMF C9 H10



CM 2

CRN 50-00-0

CMF C H2 O



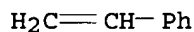
RN 851218-91-2 HCAPLUS

CN Formaldehyde, polymer with ethenylbenzene, graft (9CI) (CA INDEX NAME)

CM 1

CRN 100-42-5

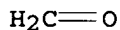
CMF C8 H8



CM 2

CRN 50-00-0

CMF C H2 O



IC ICM G03C005-16

INCL 430224000

CC 74-6 (Radiation Chemistry, **Photochemistry**, and **Photographic** and Other Reprographic Processes)  
Section cross-reference(s): 35, 38IT **Phenolic** resins, uses

(color-developing agent resin composition for emulsion)

IT 69-72-7DP, Salicylic acid, reaction product  
9003-53-6DP, Poly(Vinylbenzene), reaction product with  
salicylic acid 9052-98-6DP, tert-Butylphenol  
-formaldehyde copolymer, reaction product with salicylic acid  
25820-85-3DP, p-Phenylphenol-formaldehyde  
copolymer, reaction product with salicylic acid  
25988-52-7DP, reaction product with salicylic acid  
26984-25-8DP, Formaldehyde-salicylic acid copolymer,  
reaction product with 4-chlorophenol  
26984-25-8DP, Formaldehyde-salicylic acid copolymer,  
reaction product with sec-octylphenol



28552-25-2DP, reaction product with salicylic acid  
 153175-40-7DP, reaction product with salicylic acid  
 851190-85-7DP, reaction product with p-phenylphenol  
 851190-86-8DP, reaction product with p-Chlorophenol  
 851190-87-9DP, reaction product with sec-octylphenol  
 851218-91-2DP, reaction product with tert-Butylphenol  
 (color-developing agent resin composition for emulsion)

L56 ANSWER 2 OF 21 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2004:18114 HCAPLUS

DOCUMENT NUMBER: 140:67710

TITLE: Particles and device for displaying and erasing images through flight or movement of particles by Coulomb force or the like

INVENTOR(S): Yakushiji, Manabu; Takagi, Koji; Murata, Kazuya; Nihei, Norio; Kitano, Hajime; Masuda, Yoshitomo

PATENT ASSIGNEE(S): Bridgestone Corp., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 11 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	
JP 2004004469	A2	20040108	JP 2002-309061	2002 1023
PRIORITY APPLN. INFO.: JP 2002-102250				A 2002 0404

AB The particles comprise (A) base particles and (B) smaller particles deposited on A by surface treatment of B with solns. of charge-controlling agents, preferably,  $\geq 1$  of compds. selected from nigrosines, resin acid-modified azine compds., quaternary ammonium salts, salicylic acid-based metal complexes, phenolic compound condensates, metal-containing azo compds., and triphenylmethane derivs. A and B may comprise polymers and metal oxides, resp. The particles will be sealed in a gap of a pair of substrates (at least one of the substrates are transparent), applied with elec. field from 2 types of electrodes with different elec. potentials and to make the particles move and/or fly to form/erase images. The display apparatus provides stable images with sufficient contrast.

IT 9003-53-6, MW 1

(black particles; oxide particle-deposited resin particles for displaying and erasing images through flight or movement by Coulomb force, etc.)

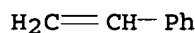
RN 9003-53-6 HCAPLUS

CN Benzene, ethenyl-, homopolymer (9CI) (CA INDEX NAME)

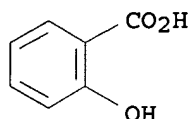
CM 1

CRN 100-42-5

CMF C8 H8



IT 69-72-7D, Salicylic acid, compds., metal complexes  
 (for surface treatment of oxide particles; oxide  
 particle-deposited resin particles for displaying and erasing  
 images through flight or movement by Coulomb force, etc.)  
 RN 69-72-7 HCAPLUS  
 CN Benzoic acid, 2-hydroxy- (9CI) (CA INDEX NAME)



IC ICM G02F001-167  
 ICS C08J003-12  
 CC 74-13 (Radiation Chemistry, **Photochemistry**, and  
**Photographic** and Other Reprographic Processes)  
 IT 9003-53-6, MW 1  
 (black particles; oxide particle-deposited resin particles for  
 displaying and erasing images through flight or movement by  
 Coulomb force, etc.)  
 IT 69-72-7D, Salicylic acid, compds., metal complexes  
 108-95-2D, **Phenol**, derivs., condensates 519-73-3D,  
 Triphenylmethane, derivs.  
 (for surface treatment of oxide particles; oxide  
 particle-deposited resin particles for displaying and erasing  
 images through flight or movement by Coulomb force, etc.)  
 L56 ANSWER 3 OF 21 HCAPLUS COPYRIGHT 2005 ACS on STN  
 ACCESSION NUMBER: 2000:227440 HCAPLUS  
 DOCUMENT NUMBER: 132:261672  
 TITLE: Weed growth-inhibiting formulations containing  
 nonselective organophosphorus herbicides  
 INVENTOR(S): Horibe, Yoshimichi; Amagasa, Tadashi; Sato,  
 Kazuo; Aoki, Atsushi  
 PATENT ASSIGNEE(S): Sankyo Company, Ltd., Japan  
 SOURCE: PCT Int. Appl., 45 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000018236	A1	20000406	WO 1999-JP5174	1999 0922
W: AU, BR, CA, CN, KR, RU, UA, US RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
AU 9957577	A1	20000417	AU 1999-57577	1999

JP 2000159615 A2 20000613 JP 1999-267910 0922  
 1999  
 0922  
 PRIORITY APPLN. INFO.: JP 1998-271696 A  
 1998  
 0925  
 WO 1999-JP5174 W  
 1999  
 0922

## OTHER SOURCE(S): MARPAT 132:261672

AB Agrochem. compns. that can be utilized to control the growth of weeds without killing the plants (e.g. on slopes or ridges) contain a first ingredient selected from the group consisting of glyphosate, etc.; a second ingredient selected from the group consisting of phosphorous acid derivs., etc.; and a third ingredient selected from the group consisting of antioxidants, etc. Thus, glyphosate isopropylamine salt 1000 + calcium propionate 500 + Pr gallate 1000 ppm controlled the height of gramineous weeds such as Setaria viridis and broadleaf weeds (e.g. Ipomoea purpurea).

IT 9069-80-1, Formaldehyde-naphthalenesulfonic acid polymer ammonium salt 9084-06-4, Naphthalenesulfonic acid-formaldehyde polymer sodium salt (surfactant; weed growth-inhibiting formulations containing nonselective organophosphorus herbicides)

RN 9069-80-1 HCAPLUS

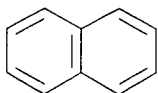
CN Naphthalenesulfonic acid, polymer with formaldehyde, ammonium salt (9CI) (CA INDEX NAME)

CM 1

CRN 9017-33-8  
 CMF (C10 H8 O3 S . C H2 O)x  
 CCI PMS

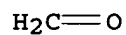
CM 2

CRN 25155-19-5  
 CMF C10 H8 O3 S  
 CCI IDS

D1- SO<sub>3</sub>H

CM 3

CRN 50-00-0  
 CMF C H2 O



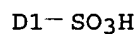
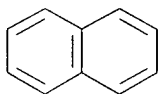
RN 9084-06-4 HCAPLUS  
 CN Naphthalenesulfonic acid, polymer with formaldehyde, sodium salt  
 (9CI) (CA INDEX NAME)

CM 1

CRN 9017-33-8  
 CMF (C10 H8 O3 S . C H2 O)x  
 CCI PMS

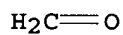
CM 2

CRN 25155-19-5  
 CMF C10 H8 O3 S  
 CCI IDS



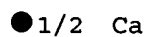
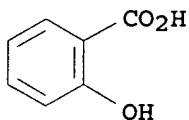
CM 3

CRN 50-00-0  
 CMF C H2 O



IT 824-35-1D, Calcium salicylate, mixts. with  
 organophosphorus herbicides, mixts.  
 (weed growth-inhibiting formulations containing nonselective  
 organophosphorus herbicides)

RN 824-35-1 HCAPLUS  
 CN Benzoic acid, 2-hydroxy-, calcium salt (2:1) (9CI) (CA INDEX  
 NAME)



IT 9038-56-6, Styrene-sodium maleate copolymer  
 37307-94-1, Formaldehyde-phenolsulfonic acid  
 polymer, sodium salt  
 (weed growth-inhibiting formulations containing nonselective  
 organophosphorus herbicides)

RN 9038-56-6 HCAPLUS

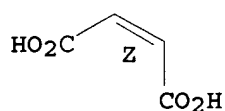
CN 2-Butenedioic acid (2Z)-, sodium salt, polymer with ethenylbenzene  
 (9CI) (CA INDEX NAME)

CM 1

CRN 18016-19-8

CMF C4 H4 O4 . x Na

Double bond geometry as shown.

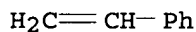


●x Na

CM 2

CRN 100-42-5

CMF C8 H8



RN 37307-94-1 HCAPLUS

CN Benzenesulfonic acid, hydroxy-, polymer with formaldehyde, sodium  
 salt (9CI) (CA INDEX NAME)

CM 1

CRN 50973-35-8

CMF (C6 H6 O4 S . C H2 O)x

CCI PMS

CM 2

CRN 1333-39-7

CMF C6 H6 O4 S

CCI IDS



D1- OH

D1- SO<sub>3</sub>H

CM 3

CRN 50-00-0

CMF C H<sub>2</sub> OH<sub>2</sub>C=O

- IC ICM A01N057-20  
ICS A01N057-12; A01N063-02; A01N059-06; A01N025-00
- CC 5-3 (Agrochemical Bioregulators)
- IT Amines, biological studies  
(hindered, **photostabilizers**; weed growth-inhibiting formulations containing nonselective organophosphorus herbicides)
- IT Antioxidants  
(**phenolic**; weed growth-inhibiting formulations containing nonselective organophosphorus herbicides)
- IT 52829-07-9, Bis(2,2,6,6-tetramethyl-4-piperidyl) sebacate  
(**photostabilizer**; weed growth-inhibiting formulations containing nonselective organophosphorus herbicides)
- IT **9069-80-1**, Formaldehyde-naphthalenesulfonic acid polymer ammonium salt **9084-06-4**, Naphthalenesulfonic acid-formaldehyde polymer sodium salt  
(surfactant; weed growth-inhibiting formulations containing nonselective organophosphorus herbicides)
- IT 50-00-0D, Formaldehyde, salts, mixts., biological studies  
50-21-5D, Lactic acid, salts, mixts. with organophosphorus herbicides 50-81-7D, L-Ascorbic acid, salts, mixts. with organophosphorus herbicides, biological studies 52-90-4D, Cysteine, salts, mixts. with organophosphorus herbicides  
56-12-2D, GABA, salts, mixts. with organophosphorus herbicides  
56-40-6D, Glycine, salts, mixts. with organophosphorus herbicides, biological studies 56-41-7D, Alanine, salts, mixts. with organophosphorus herbicides 56-45-1D, Serine, salts, mixts. with organophosphorus herbicides 56-84-8D, Aspartic acid, salts, mixts. with organophosphorus herbicides 56-85-9D, Glutamine, salts, mixts. with organophosphorus herbicides 56-86-0D, Glutamic acid, salts, mixts. with organophosphorus herbicides  
56-87-1D, Lysine, salts, mixts. with organophosphorus herbicides  
56-89-3D, Cystine, salts, mixts. with organophosphorus herbicides  
60-18-4D, Tyrosine, salts, mixts. with organophosphorus herbicides  
61-90-5D, Leucine, salts, mixts. with organophosphorus herbicides  
63-68-3D, Methionine, salts, mixts. with organophosphorus herbicides 63-91-2D, Phenylalanine, salts, mixts. with

organophosphorus herbicides 64-18-6D, Formic acid, salts, mixts. with organophosphorus herbicides, biological studies 64-19-7D, Acetic acid, salts, mixts. with organophosphorus herbicides, biological studies 70-26-8D, Ornithine, salts, mixts. with organophosphorus herbicides 70-47-3D, Asparagine, salts, mixts. with organophosphorus herbicides 71-00-1D, Histidine, salts, mixts. with organophosphorus herbicides 72-18-4D, Valine, salts, mixts. with organophosphorus herbicides 72-19-5D, Threonine, salts, mixts. with organophosphorus herbicides 73-22-3D, Tryptophan, salts, mixts. with organophosphorus herbicides 73-32-5D, Isoleucine, salts, mixts. with organophosphorus herbicides 74-79-3D, Arginine, salts, mixts. with organophosphorus herbicides 79-09-4D, Propionic acid, salts, mixts. with organophosphorus herbicides 87-69-4D, Tartaric acid, salts, mixts. with organophosphorus herbicides, biological studies 89-00-9D, Quinolinic acid, salts, mixts. 97-65-4D, Itaconic acid, salts, mixts. with organophosphorus herbicides 98-98-6D, Picolinic acid, salts, mixts. 99-50-3D, Protocatechuic acid, salts, mixts. with organophosphorus herbicides 99-96-7D, 4-Hydroxybenzoic acid, salts, mixts. with organophosphorus herbicides 103-82-2D, Phenylacetic acid, salts, mixts. with organophosphorus herbicides 107-95-9D,  $\beta$ -Alanine, salts, mixts. with organophosphorus herbicides 109-52-4D, Valeric acid, salts, mixts. with organophosphorus herbicides 110-15-6D, Succinic acid, salts, mixts. with organophosphorus herbicides 110-17-8D, Fumaric acid, salts, mixts. with organophosphorus herbicides 118-92-3D, Anthranilic acid, salts, mixts. with organophosphorus herbicides 123-76-2D, Levulinic acid, salts, mixts. with organophosphorus herbicides 127-17-3D, Pyruvic acid, salts, mixts. with organophosphorus herbicides 138-59-0D, Shikimic acid, salts, mixts. with organophosphorus herbicides 139-12-8D, Aluminum acetate, mixts. 141-82-2D, Malonic acid, salts, mixts. with organophosphorus herbicides 143-07-7D, Lauric acid, salts, mixts. with organophosphorus herbicides 144-62-7D, Oxalic acid, salts, mixts. with organophosphorus herbicides 147-85-3D, Proline, salts, mixts. with organophosphorus herbicides 156-06-9D, Phenylpyruvic acid, salts, mixts. with organophosphorus herbicides 156-38-7D, p-Hydroxyphenylacetic acid, salts, mixts. with organophosphorus herbicides 298-12-4D,  $\alpha$ -Ketoacetic acid, salts, mixts. with organophosphorus herbicides 299-28-5D, Calcium gluconate, mixts. 328-50-7D, 2-Oxoglutaric acid, salts, mixts. with organophosphorus herbicides 372-75-8D, Citrulline, salts, mixts. with organophosphorus herbicides 451-13-8D, Homogentisic acid, salts, mixts. with organophosphorus herbicides 471-34-1D, Calcium carbonate, mixts. 473-81-4D, Glyceric acid, salts, mixts. with organophosphorus herbicides 490-79-9D, Gentisic acid, salts, mixts. with organophosphorus herbicides 501-52-0D, Benzenepropanoic acid, salts, mixts. with organophosphorus herbicides 506-85-4D, Fulminic acid, salts, mixts. 512-25-4D, Barium citrate, mixts. with organophosphorus herbicides 526-95-4D, Gluconic acid, salts, mixts. with organophosphorus herbicides 535-75-1D, Pipecolic acid, salts, mixts. 541-50-4D, Acetoacetic acid, salts, mixts. with organophosphorus herbicides 542-32-5D,  $\alpha$ -Aminoadipic acid, salts, mixts. with organophosphorus herbicides 542-78-9D, Malonaldehyde, salts, mixts. with organophosphorus herbicides 546-93-0D, Magnesium carbonate, mixts. 552-63-6D, Tropic acid, salts, mixts. with organophosphorus herbicides 567-36-2D, 3-Hydroxyproline, salts, mixts. with organophosphorus herbicides 591-64-0D, Calcium levulinate, mixts. 672-15-1D, Homoserine,

salts, mixts. with organophosphorus herbicides 759-05-7D, 2-Oxoisovaleric acid, salts, mixts. with organophosphorus herbicides 814-80-2D, Calcium lactate, mixts. 816-66-0D, 2-Oxoisocaproic acid, salts, mixts. with organophosphorus herbicides 824-35-1D, Calcium salicylate, mixts. with organophosphorus herbicides, mixts. 1071-83-6D, Glyphosate, mixts. containing herbicide and its salts 1113-60-6D, Hydroxypyruvic acid, salts, mixts. with organophosphorus herbicides 1305-62-0D, Calcium hydroxide, mixts. with organophosphorus herbicides 1309-42-8D, Magnesium hydroxide, mixts. with organophosphorus herbicides 1460-34-0D, 2-Oxo-3-methylvaleric acid, salts, mixts. with organophosphorus herbicides 2090-05-3D, Calcium benzoate, mixts. 2414-98-4D, Magnesium ethoxide, mixts. with organophosphorus herbicides 2439-99-8D, Glyphosine, mixts. containing herbicide and its salts 2466-09-3D, Diphosphoric acid, salts, mixts. 3164-34-9D, Calcium tartrate, mixts., biological studies 3184-35-8D,  $\alpha$ -Ketoadipic acid, salts, mixts. with organophosphorus herbicides 3486-35-9D, Zinc carbonate, mixts. 3909-12-4D, Threonic acid, salts, mixts. with organophosphorus herbicides 4075-81-4D, Calcium propionate, mixts. 6303-21-5D, Phosphinic acid, salts, mixts. 6556-12-3D, Glucuronic acid, salts, mixts. with organophosphorus herbicides 6667-60-3D,  $\beta$ -Methylaspartic acid, salts, mixts. with organophosphorus herbicides 6915-15-7D, Malic acid, salts, mixts. with organophosphorus herbicides 7230-93-5D, Aluminum laurate, mixts. 7429-90-5D, Aluminum, salts, mixts. with organophosphorus herbicides, biological studies 7439-89-6D, Iron, salts, mixts. with organophosphorus herbicides, biological studies 7439-95-4D, Magnesium, salts, mixts. with organophosphorus herbicides, biological studies 7440-39-3D, Barium, salts, mixts. with organophosphorus herbicides, biological studies 7440-66-6D, Zinc, salts, mixts. with organophosphorus herbicides, biological studies 7440-70-2D, Calcium, salts, mixts. with organophosphorus herbicides, biological studies 7446-70-0D, Aluminum chloride, mixts. 7487-88-9D, Magnesium sulfate, mixts. 7646-85-7D, Zinc chloride, mixts. 7693-13-2D, Calcium citrate, mixts. with organophosphorus herbicides 7705-08-0D, Iron(III) chloride, mixts. 7720-78-7D, Ferrous sulfate, mixts. 7733-02-0D, Zinc sulfate, mixts. 7757-93-9D, Calcium hydrogen phosphate, mixts. 7758-94-3D, Iron(II) chloride, mixts. 7778-18-9D, Calcium sulfate, mixts. 7779-25-1D, Magnesium citrate, mixts. with organophosphorus herbicides 7779-88-6D, Zinc nitrate, mixts. 7779-90-0D, Zinc phosphate, mixts. 7784-25-0D, Ammonium aluminum sulfate, mixts. with organophosphorus herbicides 7786-30-3D, Magnesium chloride, mixts. 7789-79-9D, Phosphinic acid, calcium salt, mixts. 9005-32-7D, Alginic acid, salts, mixts. with organophosphorus herbicides 9012-76-4D, Chitosan, mixts. with organophosphorus herbicides 10028-22-5D, Ferric sulfate, mixts. 10043-01-3D, Aluminum sulfate, mixts. 10043-01-3D, Alum, mixts. with organophosphorus herbicides 10043-52-4D, Calcium chloride, mixts. 10124-37-5D, Calcium nitrate, mixts. 10257-55-3D, Calcium sulfite, mixts. 10377-60-3D, Magnesium nitrate, mixts. 10402-24-1D, Iron phosphate, mixts. 11113-66-9D, Iron hydroxide, mixts. with organophosphorus herbicides 13473-90-0D, Aluminum nitrate, mixts. 13598-36-2D, Phosphonic acid, esters, salts, mixts. with organophosphorus herbicides 14104-77-9D, Iron nitrate, mixts. 14455-29-9D, Aluminum carbonate, mixts. 14866-19-4D, Calcium dihydrogen pyrophosphate, mixts. 15007-61-1D, Potassium aluminum sulfate, mixts. with organophosphorus herbicides 15099-32-8D, Phosphonic acid,



aluminum salt, mixts. 15479-57-9D, Aluminum salicylate, mixts. with organophosphorus herbicides 17194-00-2D, Barium hydroxide, mixts. with organophosphorus herbicides 18917-91-4D, Aluminum lactate, mixts. 18917-93-6D, Magnesium lactate, mixts. 19022-77-6D, Aluminum acetoacetate, mixts. with organophosphorus herbicides 20196-46-7D, Sulfoxylic acid, salts, mixts. 20246-53-1D, Gulonic acid, salts, mixts. with organophosphorus herbicides 20427-58-1D, Zinc hydroxide, mixts. with organophosphorus herbicides 21645-51-2D, Aluminum hydroxide, mixts. with organophosphorus herbicides 25493-06-5D, Phosphonic acid, calcium salt, mixts. 30581-89-6D, Imidazoleacetic acid, salts, mixts. with organophosphorus herbicides 31142-56-0D, Aluminum citrate, mixts. with organophosphorus herbicides 32378-14-6D, mixts. 33239-40-6D, . $\alpha$ .-Ketosuccinamic acid, salts, mixts. with organophosphorus herbicides 34296-08-7D, Barium isopropyl phosphate, mixts. with organophosphorus herbicides 35597-43-4D, Bialaphos, mixts. containing herbicide and its salts 36413-60-2D, Quinic acid, mixts. with organophosphorus herbicides 39148-24-8D, Fosetyl Al, mixts. 51276-47-2D, Glufosinate, mixts. containing herbicide and its salts 53500-11-1D, mixts. with organophosphorus herbicides 61114-26-9D, mixts. with organophosphorus herbicides 65644-56-6D, Calcium glycerate, mixts. 106145-21-5D, mixts. 130752-20-4D, mixts. 207671-14-5D, mixts. with organophosphorus herbicides 207671-76-9D, mixts. with organophosphorus herbicides 207671-77-0D, mixts. with organophosphorus herbicides

(weed growth-inhibiting formulations containing nonselective organophosphorus herbicides)

IT 100-42-5D, Styrene, sulfonated, sodium salts 8061-51-6, Sodium ligninsulfonate 9038-56-6, Styrene-sodium maleate copolymer 37307-94-1, Formaldehyde-phenolsulfonic acid polymer, sodium salt

(weed growth-inhibiting formulations containing nonselective organophosphorus herbicides)

REFERENCE COUNT: 18 THERE ARE 18 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L56 ANSWER 4 OF 21 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1999:557093 HCAPLUS

DOCUMENT NUMBER: 131:206963

TITLE: Positive-working electrodeposition photoresist composition, pattern formation, and pattern

INVENTOR(S): Imai, Genji; Kogure, Hideo; Hasegawa, Takeya

PATENT ASSIGNEE(S): Kansai Paint Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 14 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 11237731	A2	19990831	JP 1998-335061	1998
US 6187509	B1	20010213	US 1998-167564	1001

1998  
1007

TW 430752

B

20010421

TW 1998-87116649

1998  
1007

PRIORITY APPLN. INFO.:

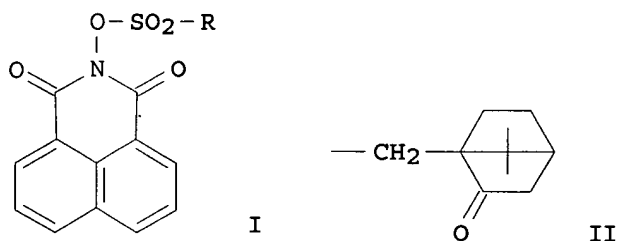
JP 1997-289218

A

1997  
1007

OTHER SOURCE(S) :  
GI

MARPAT 131:206963



AB The title **photoresist** comprises a composition containing (a) a polymer having 0.5-10 equiv/kg polymer carboxyl group and optionally  $\geq 1$  equiv/kg polymer hydroxyphenyl group, (b) a compound having  $\geq 2$  vinyl ether groups in its mol., (c) a compound, generating an acid upon visible light irradiation, naphthalenedicarboxylic sulfonylimides I [R = CR<sub>1</sub>R<sub>2</sub>R<sub>3</sub> (R<sub>1-3</sub> = H or F); C<sub>6</sub>H<sub>4</sub>Me-p, dicyclopentanyl group II], and (d) a sensitizing dye and is neutralized with a basic compound and then dissolved or dispersed in an aqueous medium. The **photoresist** composition is applied on a substrate with a conductive surface by electrodeposition, heated, irradiated selectively with visible light, heated, and developed with a basic developing solution to form a pattern. The pattern formed by the above method is suitable for elec. circuit, printing plate, etc. The **photoresist** composition provides a high resolution pattern with good profile and shows improved thermal stability.

IT 25053-96-7DP, o-Cresol-formaldehyde copolymer, reaction product with chloroethyl vinyl ether 25053-96-7P, o-Cresol-formaldehyde copolymer 25067-83-8P, Acrylic acid-butyl acrylate-2-hydroxyethyl acrylate-styrene copolymer 25609-90-9P, Acrylic acid-butyl methacrylate-styrene copolymer 30323-62-7P, Acrylic acid-butyl acrylate-ethyl acrylate-styrene copolymer 68189-17-3P, o-Cresol-formaldehyde-o-hydroxybenzoic acid copolymer (electrodeposition pos.-working **photoresist** with heat resistance)

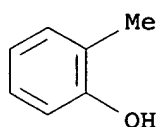
RN 25053-96-7 HCAPLUS

CN	Formaldehyde, polymer with 2-methylphenol (9CI)	(CA INDEX NAME)
----	---	-----------------

CM 1

CRN 95-48-7

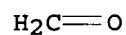
CMF C7 H8 O



CM 2

CRN 50-00-0

CMF C H2 O



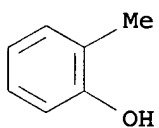
RN 25053-96-7 HCAPLUS

CN Formaldehyde, polymer with 2-methylphenol (9CI) (CA INDEX NAME)

CM 1

CRN 95-48-7

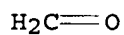
CMF C7 H8 O



CM 2

CRN 50-00-0

CMF C H2 O



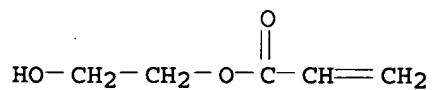
RN 25067-83-8 HCAPLUS

CN 2-Propenoic acid, polymer with butyl 2-propenoate, ethenylbenzene and 2-hydroxyethyl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

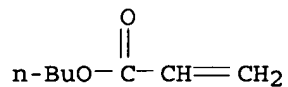
CRN 818-61-1

CMF C5 H8 O3



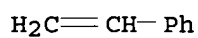
CM 2

CRN 141-32-2  
CMF C7 H12 O2



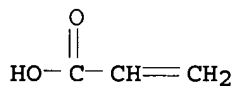
CM 3

CRN 100-42-5  
CMF C8 H8



CM 4

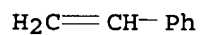
CRN 79-10-7  
CMF C3 H4 O2



RN 25609-90-9 HCAPLUS  
CN 2-Propenoic acid, 2-methyl-, butyl ester, polymer with  
ethenylbenzene and 2-propenoic acid (9CI) (CA INDEX NAME)

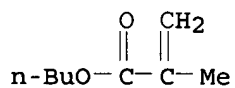
CM 1

CRN 100-42-5  
CMF C8 H8



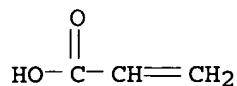
CM 2

CRN 97-88-1  
CMF C8 H14 O2



CM 3

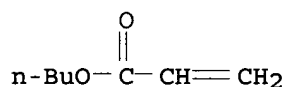
CRN 79-10-7  
CMF C3 H4 O2



RN 30323-62-7 HCAPLUS  
CN 2-Propenoic acid, polymer with butyl 2-propenoate, ethenylbenzene  
and ethyl 2-propenoate (9CI) (CA INDEX NAME)

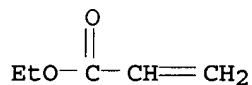
CM 1

CRN 141-32-2  
CMF C7 H12 O2



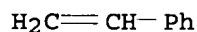
CM 2

CRN 140-88-5  
CMF C5 H8 O2



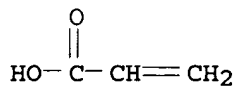
CM 3

CRN 100-42-5  
CMF C8 H8



CM 4

CRN 79-10-7  
CMF C3 H4 O2



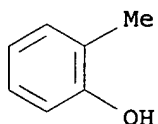
RN 68189-17-3 HCAPLUS  
CN Benzoic acid, 2-hydroxy-, polymer with formaldehyde and

2-methylphenol (9CI) (CA INDEX NAME)

CM 1

CRN 95-48-7

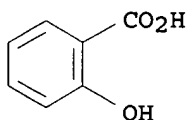
CMF C7 H8 O



CM 2

CRN 69-72-7

CMF C7 H6 O3



CM 3

CRN 50-00-0

CMF C H2 O

H<sub>2</sub>C=O

- IC ICM G03F007-004  
ICS G03F007-004; C08L101-00; H05K003-00
- CC 74-5 (Radiation Chemistry, **Photochemistry**, and **Photographic** and Other Reprographic Processes)  
Section cross-reference(s): 42
- ST pos working **photoresist** electrodeposition heat resistant; carboxy contg polymer pos working **photoresist**; acid generating agent naphthalenedicarboxylic sulfonylimide; vinyl ether pos working **photoresist** electrodeposition
- IT Electrodeposition  
Heat-resistant materials  
Positive **photoresists**  
(electrodeposition pos.-working **photoresist** with heat resistance)
- IT **Phenolic** resins, uses  
(electrodeposition pos.-working **photoresist** with heat resistance)
- IT Printed circuit boards  
(electrodeposition pos.-working **photoresist** with heat resistance for)
- IT 83697-53-4, NAI 100  
(NAI 100, acid-generating agent; electrodeposition pos.-working

**photoresist** with heat resistance)  
 IT 5551-72-4, NAI 101 85342-62-7, NAI 105  
 (acid-generating agent; electrodeposition pos.-working  
**photoresist** with heat resistance)  
 IT 110-75-8DP, 2-Chloroethyl vinyl ether, reaction product with  
 cresol-formaldehyde copolymer **25053-96-7DP**,  
 o-Cresol-formaldehyde copolymer, reaction product with chloroethyl  
 vinyl ether **25053-96-7P**, o-Cresol-formaldehyde copolymer  
**25067-83-8P**, Acrylic acid-butyl acrylate-2-hydroxyethyl  
 acrylate-styrene copolymer **25609-90-9P**, Acrylic  
 acid-butyl methacrylate-styrene copolymer **30323-62-7P**,  
 Acrylic acid-butyl acrylate-ethyl acrylate-styrene copolymer  
 51512-40-4P, Acrylic acid-p-hydroxystyrene copolymer 52411-04-8P  
**68189-17-3P**, o-Cresol-formaldehyde-o-hydroxybenzoic acid  
 copolymer 96913-05-2P, Butyl acrylate-p-hydroxystyrene copolymer  
 161613-66-7P, Acrylic acid-butyl acrylate-p-hydroxystyrene  
 copolymer 175356-67-9P  
 (electrodeposition pos.-working **photoresist** with heat  
 resistance)  
 IT 77-99-6, Trimethylolpropane 80-05-7, **Bisphenol A**,  
 reactions 110-75-8, 2-Chloroethyl vinyl ether 764-48-7,  
 2-Hydroxyethyl vinyl ether 26471-62-5, Tolylene diisocyanate  
 (electrodeposition pos.-working **photoresist** with heat  
 resistance containing vinyl ether from)  
 IT 136996-92-4, LS 5 155306-71-1, NKX 1595 209797-82-0  
 227475-07-2  
 (sensitizer; electrodeposition pos.-working **photoresist**  
 with heat resistance)

L56 ANSWER 5 OF 21 HCAPLUS COPYRIGHT 2005 ACS on STN  
 ACCESSION NUMBER: 1999:370136 HCAPLUS  
 DOCUMENT NUMBER: 131:65887  
 TITLE: Visible light-sensitive **photoresist**  
 composition for pattern formation and method  
 for pattern formation using same  
 INVENTOR(S): Imai, Genji; Kogure, Hideo  
 PATENT ASSIGNEE(S): Kansai Paint Co., Ltd., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 15 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	
JP 11153858	A2	19990608	JP 1998-263911	1998 0903
US 6124077	A	20000926	US 1998-145974	1998 0903
TW 468091	B	20011211	TW 1998-87114632	1998 0903
PRIORITY APPLN. INFO.:			JP 1997-256236	A 1997 0905

JP 1997-257974

A

1997  
0908

AB The visible light-sensitive **photoresist** composition contains a polymer having carboxyl group, a compound having  $\geq 2$  vinyl ether groups, a visible light-sensitive acid generator and a sensitizing dye, wherein the acid generator is 1,8-naphthalimidyl sulfonate. The **photoresist** composition shows improved heat-resistance.

IT 25053-96-7P, Formaldehyde-2-methylphenol copolymer 25067-83-8P, Acrylic acid-n-butyl acrylate-2-hydroxyethyl acrylate-styrene copolymer 25586-20-3P, Acrylic acid-n-butyl acrylate-styrene copolymer 30323-62-7P, Acrylic acid-ethyl acrylate-butyl acrylate-styrene copolymer 68189-17-3P, 2-Methylphenol-2-hydroxybenzoic acid-formaldehyde copolymer 70198-25-3P, 2-Methylphenol-formaldehyde-oxalic acid copolymer  
(polymer for visible light-sensitive **photoresist** composition)

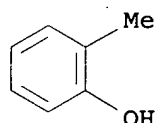
RN 25053-96-7 HCAPLUS

CN Formaldehyde, polymer with 2-methylphenol (9CI) (CA INDEX NAME)

CM 1

CRN 95-48-7

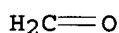
CMF C7 H8 O



CM 2

CRN 50-00-0

CMF C H2 O



RN 25067-83-8 HCAPLUS

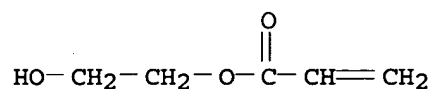
CN 2-Propenoic acid, polymer with butyl 2-propenoate, ethenylbenzene and 2-hydroxyethyl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 818-61-1

CMF C5 H8 O3

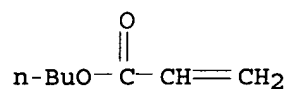




CM 2

CRN 141-32-2

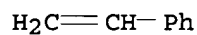
CMF C7 H12 O2



CM 3

CRN 100-42-5

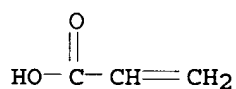
CMF C8 H8



CM 4

CRN 79-10-7

CMF C3 H4 O2



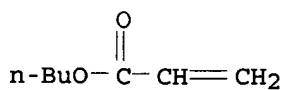
RN 25586-20-3 HCAPLUS

CN 2-Propenoic acid, polymer with butyl 2-propenoate and ethenylbenzene (9CI) (CA INDEX NAME)

CM 1

CRN 141-32-2

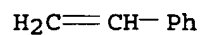
CMF C7 H12 O2



CM 2

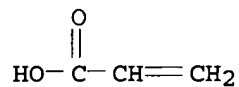
CRN 100-42-5

CMF C8 H8



CM 3

CRN 79-10-7  
CMF C3 H4 O2

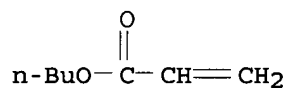


RN 30323-62-7 HCAPLUS

CN 2-Propenoic acid, polymer with butyl 2-propenoate, ethenylbenzene  
and ethyl 2-propenoate (9CI) (CA INDEX NAME)

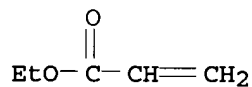
CM 1

CRN 141-32-2  
CMF C7 H12 O2



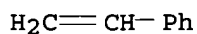
CM 2

CRN 140-88-5  
CMF C5 H8 O2



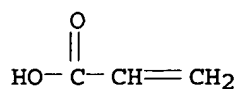
CM 3

CRN 100-42-5  
CMF C8 H8



CM 4

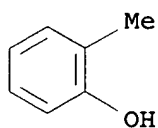
CRN 79-10-7  
CMF C3 H4 O2



RN 68189-17-3 HCAPLUS  
 CN Benzoic acid, 2-hydroxy-, polymer with formaldehyde and  
 2-methylphenol (9CI) (CA INDEX NAME)

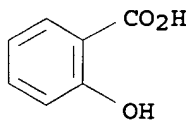
CM 1

CRN 95-48-7  
 CMF C7 H8 O



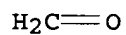
CM 2

CRN 69-72-7  
 CMF C7 H6 O3



CM 3

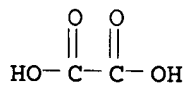
CRN 50-00-0  
 CMF C H2 O



RN 70198-25-3 HCAPLUS  
 CN Ethanedioic acid, polymer with formaldehyde and 2-methylphenol  
 (9CI) (CA INDEX NAME)

CM 1

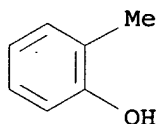
CRN 144-62-7  
 CMF C2 H2 O4



CM 2

CRN 95-48-7

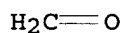
CMF C7 H8 O



CM 3

CRN 50-00-0

CMF C H2 O



IC ICM G03F007-004  
 ICS C08K005-06; C08K005-41; C08K005-47; C08L101-02; G03F007-033;  
 G03F007-039; G03F007-38; H01L021-027; C09D005-32

CC 74-5 (Radiation Chemistry, **Photochemistry**, and  
**Photographic** and Other Reprographic Processes)  
 Section cross-reference(s): 35, 76

ST visible light sensitive **photoresist** compn acid generator

IT **Photoresists**  
 Printing (nonimpact)  
 Semiconductor device fabrication  
 (visible light-sensitive **photoresist** composition for  
 pattern formation and method for pattern formation using same)

IT 136996-92-4, LS 5  
 (LS 5; sensitizing dye for visible light-sensitive  
**photoresist** composition)

IT 5551-72-4, NAI 101  
 (NAI 101; acid-generator for visible light-sensitive  
**photoresist** composition)

IT 83697-53-4 137867-61-9, NAT 105  
 (acid-generator for visible light-sensitive **photoresist**  
 composition)

IT 25053-96-7P, Formaldehyde-2-methylphenol  
 copolymer 25067-83-8P, Acrylic acid-n-butyl  
 acrylate-2-hydroxyethyl acrylate-styrene copolymer  
 25586-20-3P, Acrylic acid-n-butyl acrylate-styrene  
 copolymer 30323-62-7P, Acrylic acid-ethyl acrylate-butyl  
 acrylate-styrene copolymer 51512-40-4P, Acrylic acid-p-hydroxy  
 styrene copolymer 68189-17-3P, 2-Methylphenol  
 -2-hydroxybenzoic acid-formaldehyde copolymer 70198-25-3P  
 , 2-Methylphenol-formaldehyde-oxalic acid copolymer  
 96913-05-2P, Butyl acrylate-4-hydroxystyrene copolymer  
 161613-66-7P, Acrylic acid-4-hydroxystyrene-butyl acrylate  
 copolymer 166527-07-7P, Bisphenol A-2-chloroethyl  
 vinyl ether copolymer 227475-06-1P, 2-Hydroxyethyl vinyl  
 ether-trimethylolpropane-toluene diisocyanate copolymer

(polymer for visible light-sensitive **photoresist** composition)  
 IT 155306-71-1, NKX 1595 209797-82-0 227475-07-2  
 (sensitizing dye for visible light-sensitive **photoresist** composition)

L56 ANSWER 6 OF 21 HCAPLUS COPYRIGHT 2005 ACS on STN  
 ACCESSION NUMBER: 1996:382794 HCAPLUS  
 DOCUMENT NUMBER: 125:45273  
 TITLE: Manufacture of color filter  
 INVENTOR(S): Tamura, Koichi; Iwazawa, Naozumi; Imai, Genji;  
 Norimatsu, Tsutomu  
 PATENT ASSIGNEE(S): Kansai Paint Co Ltd, Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 13 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	
JP 08094827	A2	19960412	JP 1994-257579	1994 0926

PRIORITY APPLN. INFO.: JP 1994-257579

1994  
0926

AB A color filter is manufactured by (1) forming a transparent elec. conductive layer on a transparent substrate, (2) forming a layer of a **photosensitive** composition containing (a) a polymer or a polymer mixture having carboxy groups and hydroxyphenyl groups, (b) a compound having  $\geq 2$  vinyl ether groups, and (c) a compound capable of generating an acid on irradiation with actinic rays, and heating to form a pos.-working **photosensitive** layer, (3) exposing the **photosensitive** layer to light, and developing to expose part of the transparent elec. conductive layer, (4) forming a colored layer on the exposed elec. conductive layer by electrodeposition, and (5) repeating the steps (3) and (4) as many as necessary.

IT 25053-96-7DP, o-Cresol-formaldehyde copolymer, reaction product with 2-chloroethyl vinyl ether 25053-96-7P, o-Cresol-formaldehyde copolymer 25067-83-8P, Acrylic acidbutyl acrylate-2-hydroxyethyl acrylate-styrene copolymer 25609-90-9P, Acrylic acidbutyl methacrylate-styrene copolymer 68189-17-3P, o-Hydroxybenzoic acid-o-cresol-formaldehyde copolymer  
 (photosensitive resin layer from)

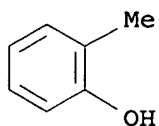
RN 25053-96-7 HCAPLUS

CN Formaldehyde, polymer with 2-methylphenol (9CI) (CA INDEX NAME)

CM 1

CRN 95-48-7

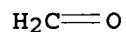
CMF C7 H8 O



CM 2

CRN 50-00-0

CMF C H2 O



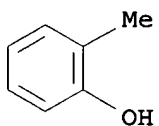
RN 25053-96-7 HCAPLUS

CN Formaldehyde, polymer with 2-methylphenol (9CI) (CA INDEX NAME)

CM 1

CRN 95-48-7

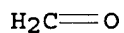
CMF C7 H8 O



CM 2

CRN 50-00-0

CMF C H2 O



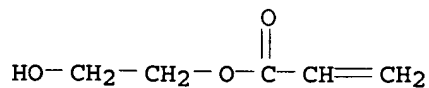
RN 25067-83-8 HCAPLUS

CN 2-Propenoic acid, polymer with butyl 2-propenoate, ethenylbenzene and 2-hydroxyethyl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 818-61-1

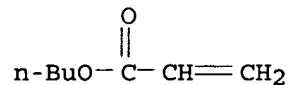
CMF C5 H8 O3



CM 2

CRN 141-32-2

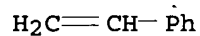
CMF C7 H12 O2



CM 3

CRN 100-42-5

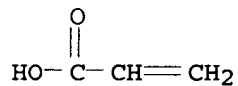
CMF C8 H8



CM 4

CRN 79-10-7

CMF C3 H4 O2



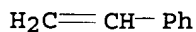
RN 25609-90-9 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, butyl ester, polymer with  
ethenylbenzene and 2-propenoic acid (9CI) (CA INDEX NAME)

CM 1

CRN 100-42-5

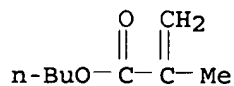
CMF C8 H8



CM 2

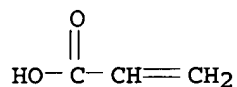
CRN 97-88-1

CMF C8 H14 O2



CM 3

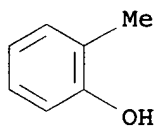
CRN 79-10-7  
CMF C3 H4 O2



RN 68189-17-3 HCAPLUS  
CN Benzoic acid, 2-hydroxy-, polymer with formaldehyde and  
2-methylphenol (9CI) (CA INDEX NAME)

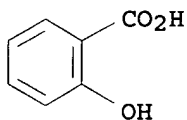
CM 1

CRN 95-48-7  
CMF C7 H8 O



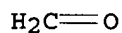
CM 2

CRN 69-72-7  
CMF C7 H6 O3



CM 3

CRN 50-00-0  
CMF C H2 O



IC ICM G02B005-20  
ICS G02F001-1335  
CC 74-13 (Radiation Chemistry, **Photochemistry**, and  
**Photographic** and Other Reprographic Processes)  
IT **Phenolic** resins, processes  
(novolak, for making color filter)  
IT Resists  
(**photo-**, for making color filter)  
IT 161061-15-0 166527-06-6  
(acid generator for **photosensitive** resin layer)



IT 110-75-8DP, 2-Chloroethyl vinyl ether, reaction product with cresol novolak 25053-96-7DP, o-Cresol-formaldehyde copolymer, reaction product with 2-chloroethyl vinyl ether 25053-96-7P, o-Cresol-formaldehyde copolymer 25067-83-8P, Acrylic acidbutyl acrylate-2-hydroxyethyl acrylate-styrene copolymer 25609-90-9P, Acrylic acidbutyl methacrylate-styrene copolymer 68189-17-3P, o-Hydroxybenzoic acid-o-cresol-formaldehyde copolymer 96913-05-2P, Butyl acrylate-p-Hydroxystyrene copolymer 161613-66-7P, p-Hydroxystyrene-butyl acrylate-acrylic acid copolymer 166527-07-7P, Bisphenol A-vinyl 2-chloroethyl ether copolymer  
(photosensitive resin layer from)

L56 ANSWER 7 OF 21 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1995:374994 HCAPLUS

DOCUMENT NUMBER: 122:201278

TITLE: Photosensitive composition and pattern forming method

INVENTOR(S): Imai, Genji; Iwazawa, Naozumi; Yamaoka, Tsugio

PATENT ASSIGNEE(S): Kansai Paint Co Ltd, Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 13 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	
JP 06308733	A2	19941104	JP 1993-119234	1993 0423
PRIORITY APPLN. INFO.: JP 1993-119234				1993 0423

AB The composition comprises a polymer having carboxy group or carboxy group and hydroxyphenyl group, a compound having a vinyl ether group in a mol. and a compound generating acids by active ray irradiation. The pattern forming method comprises coating the composition on a substrate, heating the substrate, selectively irradiating the active ray, heating the substrate, and developing by basic developer. The composition shows high resolution, gives fine patterns, and is useful for making elec. devices.

IT 25609-90-9P, Acrylic acid-butyl methacrylate-styrene copolymer 30323-62-7P, Acrylic acid-butyl acrylate-ethyl acrylate-styrene copolymer 34268-75-2P  
68189-17-3P

(photoresist composition containing vinyl ether compound and polymer with carboxy group)

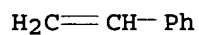
RN 25609-90-9 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, butyl ester, polymer with ethenylbenzene and 2-propenoic acid (9CI) (CA INDEX NAME)

CM 1

CRN 100-42-5

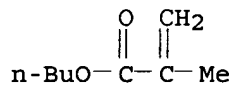
CMF C8 H8



CM 2

CRN 97-88-1

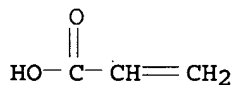
CMF C8 H14 O2



CM 3

CRN 79-10-7

CMF C3 H4 O2



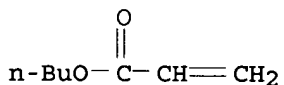
RN 30323-62-7 HCAPLUS

CN 2-Propenoic acid, polymer with butyl 2-propenoate, ethenylbenzene and ethyl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 141-32-2

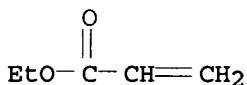
CMF C7 H12 O2



CM 2

CRN 140-88-5

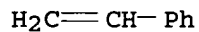
CMF C5 H8 O2



CM 3

CRN 100-42-5

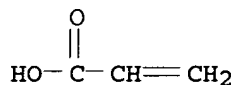
CMF C8 H8



CM 4

CRN 79-10-7

CMF C3 H4 O2



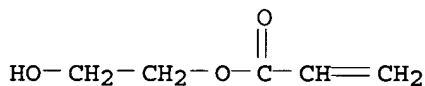
RN 34268-75-2 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, butyl ester, polymer with  
ethenylbenzene, 2-hydroxyethyl-2-propenoate and 2-propenoic acid  
(9CI) (CA INDEX NAME)

CM 1

CRN 818-61-1

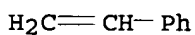
CMF C5 H8 O3



CM 2

CRN 100-42-5

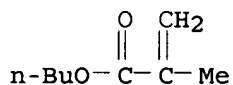
CMF C8 H8



CM 3

CRN 97-88-1

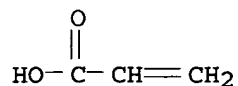
CMF C8 H14 O2



CM 4

CRN 79-10-7

CMF C3 H4 O2



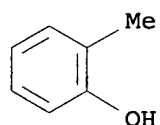
RN 68189-17-3 HCAPLUS

CN Benzoic acid, 2-hydroxy-, polymer with formaldehyde and 2-methylphenol (9CI) (CA INDEX NAME)

CM 1

CRN 95-48-7

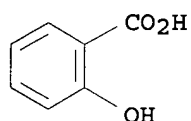
CMF C7 H8 O



CM 2

CRN 69-72-7

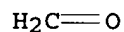
CMF C7 H6 O3



CM 3

CRN 50-00-0

CMF C H2 O



IC ICM G03F007-039

ICS C09D005-44; G03F007-004; G03F007-029; H01L021-027; H05K003-00

CC 74-5 (Radiation Chemistry, Photochemistry, and

Photographic and Other Reprographic Processes)

Section cross-reference(s): 76

ST photoresist carboxy hydroxyphenyl polymer; vinyl ether

compd acid generator photoresist

IT Phenolic resins, uses

(novolak, photoresist composition containing vinyl ether compound

and polymer with carboxy group)

IT Resists

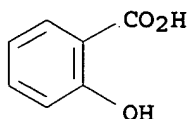
(photo-, photoresist composition containing

vinylether compound and polymer with carboxy group)  
 IT 75482-18-7 161061-13-8 161061-15-0  
 (acid generator; **photoresist** composition containing vinylether  
 compound and polymer with carboxy group)  
 IT 25609-90-9P, Acrylic acid-butyl methacrylate-styrene  
 copolymer 30323-62-7P, Acrylic acid-butyl acrylate-ethyl  
 acrylate-styrene copolymer 34268-75-2P 52411-03-7P  
 68189-17-3P 94441-21-1P 161613-66-7P 161812-39-1P  
 (**photoresist** composition containing vinylether compound and  
 polymer with carboxy group)  
 IT 98-54-4 104-40-5, p-Nonylphenol 110-75-8,  
 2-Chloroethyl vinyl ether 764-48-7, 2-Hydroxyethyl vinyl ether  
 110726-08-4  
 (preparation of vinylether compound)

L56 ANSWER 8 OF 21 HCAPLUS COPYRIGHT 2005 ACS on STN  
 ACCESSION NUMBER: 1994:535593 HCAPLUS  
 DOCUMENT NUMBER: 121:135593  
 TITLE: Polyphenylene ether-diene rubber blends  
 INVENTOR(S): Richards, William David; White, Dwain  
 Montgomery  
 PATENT ASSIGNEE(S): General Electric Co., USA  
 SOURCE: Eur. Pat. Appl., 8 pp.  
 CODEN: EPXXDW  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 592144	A1	19940413	EP 1993-307742	1993 0929
R: DE, ES, FR, GB, IT, NL JP 06207049	A2	19940726	JP 1993-250313	1993 1006
PRIORITY APPLN. INFO.:		US 1992-957120	A	1992 1007

AB The resistance to loss of impact strength of the title blends  
 after being thermally recycled is improved by using  
 polyoxyphenylenes end-capped by salicylate esters. The extruded  
 moldable blends can be further used with a matrix material, such  
 as a polyamide, polyester, or polyether-polyimide.  
 IT 69-72-7D, Salicyclic acid, esters, polyoxyphenylenes  
 derivs.  
 (diene rubber blends with, with good impact resistance after  
 thermally recycling)  
 RN 69-72-7 HCAPLUS  
 CN Benzoic acid, 2-hydroxy- (9CI) (CA INDEX NAME)



IT 9003-53-6, Polystyrene  
 (salicylate ester-terminated polyoxyphenylene-diene rubber  
 blends containing, with good impact resistance after thermal  
 recycling)  
 RN 9003-53-6 HCAPLUS  
 CN Benzene, ethenyl-, homopolymer (9CI) (CA INDEX NAME)  
 CM 1  
 CRN 100-42-5  
 CMF C8 H8

H<sub>2</sub>C=CH-Ph

IC ICM C08L071-12  
 CC 37-6 (Plastics Manufacture and Processing)  
 IT 69-72-7D, Salicyclic acid, esters, polyoxyphenylenes  
 derivs. 24938-67-8D, Poly(2,6-dimethyl-1,4-phenylene ether),  
 salicylate ester-terminated 25134-01-4D, 2,6-  
**Dimethylphenol** homopolymer, salicylate ester-terminated  
 (diene rubber blends with, with good impact resistance after  
 thermally recycling)  
 IT 9003-53-6, Polystyrene  
 (salicylate ester-terminated polyoxyphenylene-diene rubber  
 blends containing, with good impact resistance after thermal  
 recycling)

L56 ANSWER 9 OF 21 HCAPLUS COPYRIGHT 2005 ACS on STN  
 ACCESSION NUMBER: 1992:245364 HCAPLUS  
 DOCUMENT NUMBER: 116:245364  
 TITLE: Color-developing toner containing two types of  
 powders  
 INVENTOR(S): Hattori, Yasuhiro  
 PATENT ASSIGNEE(S): Brother Industries, Ltd., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 4 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

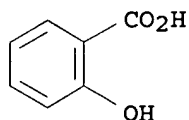
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 03271750	A2	19911203	JP 1990-71352	1990 0320
PRIORITY APPLN. INFO.:				1990 0320
				JP 1990-71352

AB The toner comprises (1) a 1st powder mainly containing a color-developer, and (2) a 2nd powder mainly containing a binder resin and charging oppositely to the 1st powder. The toner shows good coatability and color-developability.

IT 69-72-7D, Salicylic acid, derivative 9003-53-6, Polystyrene (color-developing toner containing)

RN 69-72-7 HCAPLUS

CN Benzoic acid, 2-hydroxy- (9CI) (CA INDEX NAME)



RN 9003-53-6 HCAPLUS

CN Benzene, ethenyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 100-42-5

CMF C8 H8



IC ICM G03G009-09  
ICS G03G009-097

CC 74-12 (Radiation Chemistry, **Photochemistry**, and **Photographic** and Other Reprographic Processes)

IT 69-72-7D, Salicylic acid, derivative 108-95-2D, **Phenol**, derivative 9003-53-6, Polystyrene (color-developing toner containing)

L56 ANSWER 10 OF 21 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1992:135528 HCAPLUS

DOCUMENT NUMBER: 116:135528

TITLE: Performance-oriented packaging standards; changes to classification, hazard communication, packaging and handling requirements based on UN standards and agency initiative

CORPORATE SOURCE: United States Dept. of Transportation, Washington, DC, 20590-0001, USA

SOURCE: Federal Register (1990), 55(246), 52402-729, 21 Dec 1990

CODEN: FEREAC; ISSN: 0097-6326

DOCUMENT TYPE: Journal

LANGUAGE: English

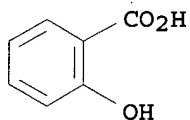
AB The hazardous materials regulations under the Federal Hazardous Materials Transportation Act are revised based on the United Nations recommendations on the transport of dangerous goods. The regulations cover the classification of materials, packaging requirements, and package marking, labeling, and shipping documentation, as well as transportation modes and handling, and incident reporting. Performance-oriented stds. are adopted for packaging for bulk and nonbulk transportation, and SI units of

measurement generally replace US customary units. Hazardous material descriptions and proper shipping names are tabulated together with hazard class, identification nos., packing group, label required, special provisions, packaging authorizations, quantity limitations, and vessel stowage requirements.

IT 9003-53-6, Polystyrene 29790-52-1, Nicotine salicylate 30525-89-4, Paraformaldehyde (packaging and transport of, stds. for)  
 RN 9003-53-6 HCAPLUS  
 CN Benzene, ethenyl-, homopolymer (9CI) (CA INDEX NAME)  
 CM 1  
 CRN 100-42-5  
 CMF C8 H8

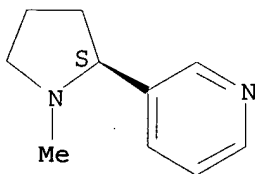
$\text{H}_2\text{C}=\text{CH}-\text{Ph}$

RN 29790-52-1 HCAPLUS  
 CN Benzoic acid, 2-hydroxy-, compd. with 3-[(2S)-1-methyl-2-pyrrolidinyl]pyridine (1:1) (9CI) (CA INDEX NAME)  
 CM 1  
 CRN 69-72-7  
 CMF C7 H6 O3



CM 2  
 CRN 54-11-5  
 CMF C10 H14 N2

Absolute stereochemistry. Rotation (-).



RN 30525-89-4 HCAPLUS  
 CN Paraformaldehyde (9CI) (CA INDEX NAME)  
 CM 1  
 CRN 50-00-0  
 CMF C H2 O



H<sub>2</sub>C=O

CC 59-6 (Air Pollution and Industrial Hygiene)  
IT Adhesives  
Alcoholic beverages  
Ammunition  
Antifreeze substances  
Bactericides, Disinfectants, and Antiseptics  
Batteries, primary  
Blasting gelatin  
Bombs (explosives)  
Carbon paper  
Cartridges  
Castor bean  
Coating materials  
Corrosive substances  
Cotton  
Creosote  
Detonators  
Dyes  
Dynamite  
Electric fuses  
Exothermic materials  
Explosives  
Flavoring materials  
Flue dust  
Fuel cells  
Fuel oil  
Fuels, diesel  
Fuels, jet aircraft  
Fusel oil  
Fuses, explosives  
Gas oils  
Hay  
Herbicides  
Igniters and Lighters  
Insecticides  
Lacrimators  
Magnetic substances  
Matches  
Oxidizing agents  
Perfumes  
Pesticides  
Petroleum products  
Pharmaceuticals  
Photoelectric devices  
Poisons  
Primers, explosive  
Projectiles  
Pyrophoric substances  
Pyrotechnic compositions  
Radioactive substances  
Refrigerating apparatus  
Rockets  
Shale oils  
Solvent naphtha  
Sprays  
Straw

Textiles  
 Thermoelectric devices  
 Torpedoes (weapons)  
 Turpentine  
 Wood preservatives  
 (packaging and transport of, stds. for)

## IT Phenols, miscellaneous

(alkyl, packaging and transport of, stds. for)

IT 50-00-0, Formaldehyde, miscellaneous 54-11-5, Nicotine  
 54-11-5D, Nicotine, compds. 55-63-0, Nitroglycerin 55-68-5,  
 Phenylmercuric nitrate 56-18-8, 3,3'-Iminodipropylamine  
 56-23-5, miscellaneous 56-38-2, Parathion 57-06-7, Allyl  
 isothiocyanate 57-14-7 57-24-9D, Strychnine, salts 60-00-4,  
 EDTA, miscellaneous 60-24-2 60-29-7, Diethyl ether,  
 miscellaneous 60-34-4, Methylhydrazine 60-57-1, Dieldrin  
 62-38-4, Phenylmercuric acetate 62-53-3, Aniline, miscellaneous  
 62-74-8, Sodium fluoroacetate 64-17-5, Ethanol, miscellaneous  
 64-18-6, Formic acid, miscellaneous 64-18-6D, Formic acid,  
 chloro derivs. 64-19-7, Acetic acid, miscellaneous 64-67-5,  
 Diethyl sulfate 66-25-1, Hexaldehyde 67-56-1, Methanol,  
 miscellaneous 67-63-0, Isopropanol, miscellaneous 67-64-1,  
 Acetone, miscellaneous 67-66-3, Chloroform, miscellaneous  
 68-11-1, Thioglycolic acid, miscellaneous 68-12-2,  
 N,N-Dimethylformamide, miscellaneous 70-11-1, Phenacyl bromide  
 70-30-4, Hexachlorophene 71-23-8, n-Propanol, miscellaneous  
 71-41-0, 1-Pentanol, miscellaneous 71-43-2, Benzene,  
 miscellaneous 71-55-6, 1,1,1-Trichloroethane 74-82-8, Methane,  
 miscellaneous 74-83-9, miscellaneous 74-84-0, Ethane,  
 miscellaneous 74-85-1, Ethylene, miscellaneous 74-86-2,  
 Acetylene, miscellaneous 74-87-3, Methyl chloride, miscellaneous  
 74-88-4, Methyl iodide, miscellaneous 74-89-5, Methylamine,  
 miscellaneous 74-90-8, Hydrogen cyanide, miscellaneous  
 74-93-1, Methyl mercaptan, miscellaneous 74-95-3, Dibromomethane  
 74-96-4, Ethyl bromide 74-97-5, Bromochloromethane 74-98-6,  
 Propane, miscellaneous 75-00-3, Ethyl chloride 75-01-4,  
 miscellaneous 75-02-5, Vinyl fluoride 75-04-7, Ethylamine,  
 miscellaneous 75-05-8, Methyl cyanide, miscellaneous 75-07-0,  
 Acetaldehyde, miscellaneous 75-08-1, Ethyl mercaptan 75-09-2,  
 Dichloromethane, miscellaneous 75-15-0, Carbon disulfide,  
 miscellaneous 75-16-1, Methyl magnesium bromide 75-18-3,  
 Dimethyl sulfide 75-19-4, Cyclopropane 75-20-7, Calcium  
 carbide 75-21-8, Ethylene oxide, miscellaneous 75-21-8  
 75-25-2, Bromoform 75-26-3, 2-Bromopropane 75-28-5, Isobutane  
 75-28-5D, Isobutane, mixts. 75-29-6, 2-Chloropropane 75-31-0,  
 Isopropylamine, miscellaneous 75-33-2, Isopropyl mercaptan  
 75-34-3, 1,1-Dichloroethane 75-35-4, miscellaneous 75-36-5,  
 Acetyl chloride 75-38-7, 1,1-Difluoroethylene 75-39-8,  
 Acetaldehyde ammonia 75-43-4, Dichloromonofluoromethane  
 75-44-5, Phosgene 75-45-6, Chlorodifluoromethane 75-46-7,  
 Trifluoromethane 75-50-3, Trimethylamine, miscellaneous  
 75-52-5, Nitromethane, miscellaneous 75-54-7,  
 Methylchlorosilane 75-55-8, Propylenimine 75-56-9, Propylene  
 oxide, miscellaneous 75-59-2, Tetramethylammonium hydroxide  
 75-60-5, Cacodylic acid 75-61-6, Dibromodifluoromethane  
 75-63-8 75-71-8, Dichlorodifluoromethane 75-72-9,  
 Chlorotrifluoromethane 75-73-0, Tetrafluoromethane 75-76-3,  
 Tetramethylsilane 75-77-4, Trimethylchlorosilane, miscellaneous  
 75-78-5, Dimethyldichlorosilane 75-79-6, Methyltrichlorosilane  
 75-83-2 75-86-5, Acetone cyanohydrin 75-87-6, Chloral  
 75-91-2, tert-Butyl hydroperoxide 75-94-5, Vinyltrichlorosilane

76-01-7, Pentachloroethane 76-02-8, Trichloroacetyl chloride  
 76-03-9, properties 76-05-1, Trifluoroacetic acid, miscellaneous  
 76-06-2, Chloropicrin 76-06-2D, Chloropicrin, mixts. 76-15-3  
 76-16-4, Hexafluoroethane 76-19-7, Octafluoropropane 76-22-2,  
 Camphor 77-47-4, Hexachlorocyclopentadiene 77-73-6 77-78-1,  
 Dimethyl sulfate 78-00-2, Tetraethyl lead 78-10-4, Tetraethyl  
 silicate 78-62-6, Dimethyldiethoxysilane 78-67-1,  
 Azodiisobutyronitrile 78-76-2, 2-Bromobutane 78-78-4,  
 Isopentane 78-79-5, Isoprene, miscellaneous 78-81-9,  
 Isobutylamine 78-82-0, Isobutyronitrile 78-83-1, Isobutanol,  
 miscellaneous 78-84-2, Isobutyraldehyde 78-85-3,  
 Methacrylaldehyde 78-87-5, Propylene dichloride 78-89-7,  
 Propylene chlorohydrin 78-90-0, 1,2-Propylenediamine 78-93-3,  
 2-Butanone, miscellaneous 78-94-4, Methyl vinyl ketone,  
 miscellaneous 78-95-5, Monochloroacetone 79-01-6,  
 Trichloroethylene, miscellaneous 79-03-8, Propionyl chloride  
 79-04-9, Chloroacetyl chloride 79-06-1, Acrylamide,  
 miscellaneous 79-08-3, Bromoacetic acid 79-09-4, Propionic  
 acid, miscellaneous 79-10-7, 2-Propenoic acid, miscellaneous  
 79-11-8, Chloroacetic acid, miscellaneous 79-20-9, Methyl  
 acetate 79-21-0, Peroxyacetic acid 79-22-1 79-24-3,  
 Nitroethane 79-29-8, 2,3-Dimethylbutane 79-30-1, Isobutyryl  
 chloride 79-31-2, Isobutyric acid 79-36-7, Dichloroacetyl  
 chloride 79-38-9 79-41-4, miscellaneous 79-42-5 79-43-6,  
 Dichloroacetic acid, miscellaneous 79-44-7, Dimethylcarbamoyl  
 chloride 80-10-4, Diphenyldichlorosilane 80-15-9, Cumene  
 hydroperoxide 80-17-1, Benzene sulfohydrazide 80-47-7,  
 p-Menthane hydroperoxide 80-51-3, Diphenyloxide-4,4'-  
 disulfohydrazide 80-56-8,  $\alpha$ -Pinene 80-62-6 81-15-2  
 82-71-3 85-44-9, 1,3-Isobenzofurandione 86-50-0, Azinphos  
 methyl 87-68-3, Hexachlorobutadiene 87-90-1 88-17-5,  
 2-Trifluoromethylaniline 88-72-2, o-Nitrotoluene 88-73-3,  
 o-Chloronitrobenzene 88-74-4, o-Nitroaniline 88-75-5, o-  
 Nitrophenol 88-89-1 89-58-7, p-Nitroxylylene 91-17-8,  
 Decahydronaphthalene 91-20-3, Naphthalene, miscellaneous  
 91-20-3D, Naphthalene, diozonide derivs. 91-22-5, Quinoline,  
 miscellaneous 91-59-8,  $\beta$ -Naphthylamine 91-66-7,  
 N,N-Diethylaniline 92-52-4D, Biphenyl, chloro derivs.  
 92-52-4D, Biphenyl, halo derivs. 92-59-1, N-Ethyl-N-  
 benzylaniline 92-87-5, Benzidine 93-58-3, Methyl benzoate  
 94-17-7, p-Chlorobenzoyl peroxide 94-36-0, Benzoyl peroxide,  
 miscellaneous 95-48-7, miscellaneous 95-50-1,  
 o-Dichlorobenzene 95-54-5, o-Phenylenediamine, miscellaneous  
 95-55-6, o-Aminophenol 95-80-7 95-85-2, 2-Amino-4-  
 chlorophenol 96-12-8, Dibromochloropropane 96-22-0,  
 Diethyl ketone 96-23-1 96-24-2, Glycerol  $\alpha$ -  
 monochlorohydrin 96-32-2, Methyl bromoacetate 96-33-3  
 96-34-4, Methyl chloroacetate 96-37-7, Methyl cyclopentane  
 96-41-3, Cyclopentanol 97-62-1, Ethyl isobutyrate 97-63-2  
 97-64-3, Ethyl lactate 97-72-3, Isobutyric anhydride 97-85-8,  
 Isobutyl isobutyrate 97-86-9 97-88-1 97-95-0 97-96-1,  
 2-Ethylbutyraldehyde 98-00-0, Furfuryl alcohol 98-01-1,  
 Furfural, miscellaneous 98-07-7, Benzotrichloride 98-08-8,  
 Benzotrifluoride 98-09-9, Benzene sulfonyl chloride 98-12-4,  
 Cyclohexyltrichlorosilane 98-13-5, Phenyltrichlorosilane  
 98-16-8, 3-Trifluoromethylaniline 98-82-8, Isopropylbenzene  
 98-83-9, miscellaneous 98-85-1,  $\alpha$ -Methylbenzyl alcohol  
 98-87-3, Benzylidene chloride 98-88-4, Benzoyl chloride  
 98-94-2 98-95-3, Nitrobenzene, miscellaneous 99-08-1,  
 m-Nitrotoluene 99-09-2, m-Nitroaniline 99-35-4,

Trinitrobenzene 99-99-0, p-Nitrotoluene 100-00-5 100-01-6,  
 p-Nitroaniline, miscellaneous 100-02-7, p-Nitrophenol,  
 miscellaneous 100-17-4 100-34-5, Benzene diazonium chloride  
 100-36-7, N,N-Diethylethylenediamine 100-37-8,  
 Diethylaminoethanol 100-39-0, Benzyl bromide 100-41-4,  
 Ethylbenzene, miscellaneous  
 (packaging and transport of, stds. for)  
 IT 100-42-5, miscellaneous 100-44-7, Benzyl chloride, miscellaneous  
 100-47-0, Benzonitrile, miscellaneous 100-50-5,  
 1,2,3,6-Tetrahydrobenzaldehyde 100-57-2, Phenylmercuric  
 hydroxide 100-61-8, N-Methylaniline, miscellaneous 100-63-0,  
 Phenylhydrazine 100-66-3, Anisole, miscellaneous 100-73-2,  
 Acrolein dimer 101-25-7, N,N'-Dinitrosopentamethylenetetramine  
 101-68-8 101-77-9, 4,4'-Diaminodiphenyl methane 101-83-7,  
 Dicyclohexylamine 102-69-2, Tripropylamine 102-70-5,  
 Triallylamine 102-81-8, Dibutylaminoethanol 102-82-9,  
 Tributylamine 103-65-1, n-Propylbenzene 103-69-5,  
 N-Ethylaniline 103-71-9, Phenylisocyanate, miscellaneous  
 103-80-0, Phenylacetyl chloride 103-83-3, Benzyl dimethylamine  
 104-15-4, Toluene sulfonic acid, miscellaneous 104-51-8,  
 Butylbenzene 104-75-6, 2-Ethylhexylamine 104-78-9 104-90-5,  
 2-Methyl-5-ethylpyridine 105-36-2 105-37-3, Ethyl propionate  
 105-39-5, Ethyl chloroacetate 105-48-6, Isopropyl chloroacetate  
 105-54-4, Ethyl butyrate 105-56-6, Ethyl cyanoacetate  
 105-57-7, Acetal 105-58-8, Diethyl carbonate 105-64-6,  
 Isopropyl peroxydicarbonate 105-74-8, Lauroyl peroxide  
 106-31-0, Butyric anhydride 106-44-5, p-Cresol, miscellaneous  
 106-46-7, p-Dichlorobenzene 106-50-3, p-Phenylenediamine,  
 miscellaneous 106-51-4, 2,5-Cyclohexadiene-1,4-dione,  
 miscellaneous 106-63-8, Isobutyl acrylate 106-68-3, Ethyl amyl  
 ketone 106-88-7, 1,2-Butylene oxide 106-89-8, miscellaneous  
 106-92-3, Allyl glycidyl ether 106-93-4, Ethylene dibromide  
 106-95-6, Allyl bromide, miscellaneous 106-96-7, 3-Bromopropyne  
 106-97-8, Butane, miscellaneous 106-97-8D, Butane, mixts.  
 106-99-0, 1,3-Butadiene, miscellaneous 107-00-6, Ethylacetylene  
 107-02-8, 2-Propenal, miscellaneous 107-05-1, Allyl chloride  
 107-06-2, Ethylene dichloride, miscellaneous 107-07-3, Ethylene  
 chlorohydrin, miscellaneous 107-10-8, Propylamine, miscellaneous  
 107-11-9, Allylamine 107-12-0, Propionitrile 107-13-1,  
 Acrylonitrile, miscellaneous 107-14-2, Chloroacetonitrile  
 107-15-3, Ethylenediamine, miscellaneous 107-18-6, Allyl  
 alcohol, miscellaneous 107-19-7, Propargyl alcohol 107-20-0,  
 Chloroacetaldehyde 107-25-5, Vinylmethyl ether 107-29-9,  
 Acetaldehyde oxime 107-30-2, Methylchloromethyl ether  
 107-31-3, Methyl formate 107-37-9, Allyltrichlorosilane  
 107-49-3, Tetraethyl pyrophosphate 107-70-0 107-71-1,  
 tert-Butyl peroxyacetate 107-72-2, Amyltrichlorosilane  
 107-81-3, 2-Bromopentane 107-82-4, 1-Bromo-3-methylbutane  
 107-87-9, Methyl propyl ketone 107-89-1, Aldol 107-92-6,  
 Butyric acid, miscellaneous 108-01-0, Dimethylethanolamine  
 108-05-4, Acetic acid ethenyl ester, miscellaneous 108-09-8,  
 1,3-Dimethylbutylamine 108-10-1, Methyl isobutyl ketone  
 108-11-2, Methyl isobutyl carbinol 108-18-9, Diisopropylamine  
 108-20-3, Diisopropyl ether 108-21-4, Isopropyl acetate  
 108-22-5, Isopropenyl acetate 108-23-6, Isopropyl chloroformate  
 108-24-7, Acetic anhydride 108-31-6, 2,5-Furandione,  
 miscellaneous 108-39-4, miscellaneous 108-45-2,  
 m-Phenylenediamine, miscellaneous 108-46-3, Resorcinol,  
 miscellaneous 108-67-8, miscellaneous 108-77-0 108-83-8,  
 Diisobutyl ketone 108-84-9 108-86-1, Benzene, bromo-,

miscellaneous 108-87-2, Methyl cyclohexane 108-88-3, Toluene,  
 miscellaneous 108-90-7, Chlorobenzene, miscellaneous 108-91-8,  
 Cyclohexylamine, miscellaneous 108-94-1, Cyclohexanone,  
 miscellaneous 108-95-2, **Phenol**, miscellaneous  
 108-98-5, Phenyl mercaptan, miscellaneous 109-02-4 109-09-1,  
 2-Chloropyridine 109-13-7, tert-Butyl peroxyisobutyrate  
 109-52-4, Valeric acid, miscellaneous 109-53-5, Vinyl isobutyl  
 ether 109-60-4, n-Propyl acetate 109-61-5, n-Propyl  
 chloroformate 109-63-7, Boron trifluoride diethyl etherate  
 109-65-9, n-Butyl bromide 109-66-0, Pentane, miscellaneous  
 109-70-6, 1-Chloro-3-bromopropane 109-73-9, n-Butylamine,  
 miscellaneous 109-74-0, Butyronitrile 109-77-3, Malononitrile  
 109-79-5, Butyl mercaptan 109-86-4, Ethylene glycol monomethyl  
 ether 109-87-5, Methylal 109-89-7, Diethylamine, miscellaneous  
 109-90-0, Ethyl isocyanate 109-92-2, Vinyl ethyl ether  
 109-93-3, Divinyl ether 109-94-4, Ethyl formate 109-95-5,  
 Ethyl nitrite 109-99-9, Tetrahydrofuran, miscellaneous  
 110-00-9, Furan 110-01-0, Tetrahydrothiophene 110-02-1,  
 Thiophene 110-12-3, 5-Methylhexan-2-one 110-16-7, Maleic acid,  
 miscellaneous 110-18-9 110-19-0 110-22-5, Diacetyl peroxide  
 110-43-0, Amyl methyl ketone 110-49-6 110-54-3, Hexane,  
 miscellaneous 110-58-7, Amylamine 110-62-3, Valeraldehyde  
 110-66-7, Amyl mercaptan 110-68-9, N-Methylbutylamine  
 110-69-0, Butyraldoxime 110-71-4, 1,2-Dimethoxyethane  
 110-74-7, Propyl formate 110-78-1, n-Propyl isocyanate  
 110-80-5, Ethylene glycol monoethyl ether 110-82-7, Cyclohexane,  
 miscellaneous 110-83-8, Cyclohexene, miscellaneous 110-85-0,  
 Piperazine, miscellaneous 110-86-1, Pyridine, miscellaneous  
 110-87-2 110-89-4, Piperidine, miscellaneous 110-91-8,  
 Morpholine, miscellaneous 110-96-3, Diisobutylamine 111-15-9,  
 Ethylene glycol monoethyl ether acetate 111-34-2, Butylvinyl  
 ether 111-36-4, n-Butyl isocyanate 111-40-0 111-43-3,  
 Dipropyl ether 111-49-9, Hexamethylenimine 111-65-9, Octane,  
 miscellaneous 111-69-3, Adiponitrile 111-71-7, n-Heptaldehyde  
 111-76-2, Ethylene glycol monobutyl ether 111-92-2,  
 Di-n-butylamine 112-04-9 112-24-3, Triethylenetetramine  
 112-57-2 115-07-1, Propylene, miscellaneous 115-10-6, Dimethyl  
 ether 115-11-7, Isobutylene, miscellaneous 115-21-9,  
 Ethyltrichlorosilane 115-25-3, Octafluorocyclobutane 116-14-3,  
 Tetrafluoroethylene, miscellaneous 116-15-4, Hexafluoropropylene  
 116-16-5, Hexachloroacetone 116-54-1, Methyl dichloroacetate  
 118-74-1, Hexachlorobenzene 118-96-7, Trinitrotoluene  
 120-92-3, Cyclopentanone 121-43-7, Trimethyl borate 121-44-8,  
 Triethylamine, miscellaneous 121-45-9, Trimethyl phosphite  
 121-46-0, 2,5-Norbornadiene 121-69-7, N,N-Dimethylaniline,  
 miscellaneous 121-73-3 121-82-4, Cyclotrimethylenetrinitramine  
 122-51-0, Ethyl orthoformate 122-52-1, Triethyl phosphite  
 123-00-2, 4-Morpholinepropanamine 123-15-9 123-19-3,  
 Dipropylketone 123-20-6, Vinyl butyrate 123-23-9, Succinic  
 acid peroxide 123-30-8, p-**Aminophenol** 123-31-9,  
 Hydroquinone, miscellaneous 123-38-6, Propionaldehyde,  
 miscellaneous 123-42-2, Diacetone alcohol 123-54-6,  
 2,4-Pentanedione, miscellaneous 123-62-6, Propionic anhydride  
 123-63-7, Paraldehyde 123-72-8, Butyraldehyde 123-75-1,  
 Pyrrolidine, miscellaneous 123-86-4, Butyl acetate 123-91-1,  
 Dioxane, miscellaneous 124-02-7, Diallylamine 124-09-4,  
 Hexamethylenediamine, miscellaneous 124-13-0, Octyl aldehyde  
 124-18-5, n-Decane 124-38-9, Carbon dioxide, miscellaneous  
 124-40-3, Dimethylamine, miscellaneous 124-41-4, Sodium  
 methylate 124-43-6 124-47-0, Urea nitrate 124-65-2, Sodium

cacodylate 126-98-7, Methacrylonitrile 126-99-8, Chloroprene 127-18-4, Tetrachloroethylene, miscellaneous 127-85-5, Sodium arsanilate 129-79-3 131-52-2, Sodium pentachlorophenate 131-73-7, Hexanitrodiphenylamine 131-74-8, Ammonium picrate 133-14-2 133-55-1, N,N'-Dinitroso-N,N'-dimethyl terephthalamide 134-32-7,  $\alpha$ -Naphthylamine 138-86-3, Dipentene 138-89-6 139-02-6, Sodium phenolate 140-29-4, Phenylacetone nitrile 140-31-8, 1-Piperazineethanamine 140-80-7 140-88-5 141-32-2

(packaging and transport of, stds. for)

IT 141-43-5, Ethanolamine, miscellaneous 141-57-1, Propyltrichlorosilane 141-59-3, tert-Octylmercaptan 141-75-3, Butyryl chloride 141-78-6, Ethyl acetate, miscellaneous 141-79-7, Mesityl oxide 142-04-1, Aniline hydrochloride 142-29-0, Cyclopentene 142-62-1, Hexanoic acid, miscellaneous 142-82-5, Heptane, miscellaneous 142-84-7, Dipropylamine 142-96-1, Dibutyl ether 143-33-9, Sodium cyanide 144-49-0, Fluoroacetic acid 144-62-7D, Ethanedioic acid, salts 146-84-9, Silver picrate 149-74-6, Methylphenyldichlorosilane 151-50-8, Potassium cyanide 151-56-4, Ethylenimine, miscellaneous 156-62-7, Calcium cyanamide 260-94-6, Acridine 283-66-9, Hexamethylene triperoxide diamine 287-23-0, Cyclobutane 287-92-3, Cyclopentane 291-64-5, Cycloheptane 298-00-0, Methyl parathion 298-07-7 302-01-2, Hydrazine, miscellaneous 309-00-2, Aldrin 352-93-2, Diethyl sulfide 353-36-6, Ethyl fluoride 353-42-4, Boron trifluoride dimethyl etherate 353-50-4, Carbonyl fluoride 353-59-3 354-32-5, Trifluoroacetylchloride 357-57-3, Brucine 360-89-4, Octafluorobut-2-ene 428-59-1, Hexafluoropropylene oxide 431-03-8, Butanedione 460-19-5, Cyanogen 462-06-6, Fluorobenzene 462-08-8, m-Aminopyridine 462-95-3, Diethoxymethane 463-04-7, Amyl nitrite 463-49-0, Propadiene 463-58-1, Carbonyl sulfide 463-71-8, Thiophosgene 463-82-1, 2,2-Dimethylpropane 479-45-8 501-53-1, Benzyl chloroformate 502-98-7D, salts 503-74-2, Isopentanoic acid 504-24-5, 4-Pyridinamine 504-29-0, 2-Pyridinamine 506-64-9, Silver cyanide (Ag(CN)) 506-68-3, Cyanogen bromide 506-77-4, Cyanogen chloride 506-85-4, Fulminic acid 506-93-4, Guanidine nitrate 506-96-7, Acetyl bromide 507-02-8, Acetyl iodide 507-09-5, Thioacetic acid, miscellaneous 507-70-0, Borneol 509-14-8, Tetranitromethane 512-85-6, Ascaridole 513-35-9, 2-Methyl-2-butene 513-38-2 513-42-8, Methallyl alcohol 513-48-4, 2-Iodobutane 513-86-0, Acetyl methyl carbinol 517-25-9, Trinitromethane 517-92-0, 1,8-Dihydroxy-2,4,5,7-tetranitroanthraquinone 519-44-8D, 2,4-Dinitroresorcinol, heavy metal salts 532-27-4, Chloracetophenone 533-51-7, Silver oxalate 534-07-6, 1,3-Dichloroacetone 534-15-6, 1,1-Dimethoxyethane 534-22-5, 2-Methylfuran 535-13-7, Ethyl-2-chloropropionate 540-18-1, Amyl butyrate 540-42-1, Isobutyl propionate 540-54-5, Propyl chloride 540-67-0, Ethyl methyl ether 540-73-8 540-82-9, Ethylsulfuric acid 540-84-1, Isooctane 541-41-3, Ethyl chloroformate 542-55-2, Isobutyl formate 542-62-1, Barium cyanide 542-88-1, Dichlorodimethyl ether, symmetrical 543-27-1, Isobutyl chloroformate 543-59-9, Amyl chloride 544-16-1, Butyl nitrite 544-25-2, Cycloheptatriene 544-97-8, Dimethyl zinc 545-55-1, Tris(1-aziridinyl)phosphine oxide 554-12-1, Methyl propionate 554-84-7, m-Nitrophenol 555-54-4, Magnesium diphenyl 556-24-1, Methyl isovalerate 556-56-9, Allyl iodide 556-61-6, Methyl isothiocyanate 556-88-7 556-89-8, Nitrourea 557-17-5,

Methyl propyl ether 557-19-7, Nickel cyanide (Ni(CN)<sub>2</sub>)  
 557-20-0, Diethylzinc 557-21-1, Zinc cyanide 557-31-3, Allyl  
 ethyl ether 557-40-4, Diallylether 557-98-2, 2-Chloropropene  
 558-13-4, Carbon tetrabromide 563-45-1, 3-Methyl-1-butene  
 563-46-2, 2-Methyl-1-butene 563-47-3, Methyl allyl chloride  
 563-80-4, 3-Methylbutan-2-one 578-54-1, 2-Ethylaniline  
 578-94-9, Diphenylamine chloroarsine 582-61-6, Benzoyl azide  
 583-15-3, Mercury benzoate 584-79-2, Allethrin 585-79-5,  
 1-Bromo-3-nitrobenzene 586-62-9, Terpinolene 587-85-9D,  
 compds. 590-01-2, Butylpropionate 590-36-3,  
 2-Methylpentan-2-ol 591-27-5, m-Aminophenol  
 591-87-7, Allyl acetate 591-89-9, Mercuric potassium cyanide  
 592-01-8, Calcium cyanide 592-05-2, Lead cyanide (Pb(CN)<sub>2</sub>)  
 592-34-7, n-Butylchloroformate 592-41-6, 1-Hexene, miscellaneous  
 592-55-2, 2-Bromoethyl ethyl ether 592-63-2 592-84-7,  
 n-Butylformate 593-53-3, Methyl fluoride 593-60-2, Vinyl  
 bromide 593-89-5, Methylchloroarsine 594-42-3,  
 Perchloromethylmercaptan 594-72-9, 1,1-Dichloro-1-nitroethane  
 598-14-1, Ethylchloroarsine 598-21-0, Bromoacetyl bromide  
 598-31-2, Bromoacetone 598-57-2, Methyl nitramine 598-57-2D,  
 Methyl nitramine, metal salts 598-58-3, Methyl nitrate  
 598-73-2, Bromotrifluoroethylene 598-78-7, α-  
 Chloropropionic acid 598-99-2, Methyl trichloroacetate  
 602-96-0, 1,3,5-Trimethyl-2,4,6-trinitrobenzene 602-99-3,  
 Trinitro-m-cresol 602-99-3D, Methyl picric acid, heavy metal  
 salts 608-50-4, 2,4-Dinitro-1,3,5-trimethylbenzene 610-38-8,  
 4-Bromo-1,2-dinitrobenzene 616-38-6, Dimethyl carbonate  
 616-74-0D, 4,6-Dinitroresorcinol, heavy metal salts 617-37-8  
 617-50-5, Isopropyl isobutyrate 617-89-0, Furfurylamine  
 619-97-6, Benzene diazonium nitrate 620-05-3, Benzyl iodide  
 622-44-6, Phenylcarbylamine chloride 622-45-7, Cyclohexyl  
 acetate 623-42-7, Methyl butyrate 623-87-0,  
 Glycerol-1,3-dinitrate 624-61-3, Dibromoacetylene 624-74-8,  
 Diiodoacetylene 624-83-9, Methyl isocyanate 624-91-9, Methyl  
 nitrite 624-92-0, Dimethyl disulfide 625-76-3, Dinitromethane  
 626-67-5, 1-Methylpiperidine 627-13-4, n-Propyl nitrate  
 627-30-5 627-63-4, Fumaryl chloride 628-28-4, Butyl methyl  
 ether 628-32-0, Ethyl propyl ether 628-63-7, Amyl acetate  
 628-81-9, Ethyl butyl ether 628-86-4, Mercury fulminate  
 628-92-2, Cycloheptene 628-96-6, Ethylene glycol dinitrate  
 629-13-0, 1,2-Diazidoethane 629-14-1 629-20-9,  
 Cyclooctatetraene 630-08-0, Carbon monoxide, miscellaneous  
 630-72-8, Trinitroacetonitrile 637-78-5, Isopropyl propionate  
 638-11-9, Isopropyl butyrate 638-29-9, Valeryl chloride  
 638-49-3, Amyl formate 641-16-7, 2,3,4,6-  
**Tetranitrophenol** 644-31-5, Acetyl benzoyl peroxide  
 644-97-3, Phenyl phosphorus dichloride 645-55-6, N-Nitroaniline  
 646-06-0, Dioxolane 674-81-7, Nitrosoguanidine 674-82-8,  
 Diketene 676-83-5, Methyl phosphonous dichloride 676-97-1,  
 Methyl phosphonic dichloride 676-98-2, Methyl phosphonothioic  
 dichloride 677-71-4, Hexafluoroacetone hydrate 681-84-5,  
 Methyl orthosilicate 684-16-2, Hexafluoroacetone 693-21-0,  
 Diethylene glycol dinitrate 694-05-3, 1,2,3,6-Tetrahydropyridine  
 757-58-4, Hexaethyl tetraphosphate 762-12-9, Decanoyl peroxide  
 762-13-0, Pelargonyl peroxide 762-16-3 765-34-4,  
 Glycidaldehyde 766-09-6, 1-Ethylpiperidine 771-29-9, Tetralin  
 hydroperoxide 776-74-9, Diphenylmethyl bromide 814-78-8,  
 Methyl isopropenyl ketone 822-06-0 831-52-7, Sodium picramate  
 883-40-9, Diazodiphenylmethane 918-37-6, Hexanitroethane  
 918-54-7, Trinitroethanol 926-63-6 926-64-7,

2-Dimethylaminoacetonitrile 928-65-4, Hexyltrichlorosilane  
 929-06-6, 2-(2-Aminoethoxy)ethanol 993-00-0, Methylchlorosilane  
 993-12-4 993-43-1, Ethyl phosphonothioic dichloride 1002-16-0,  
 Amyl nitrate 1070-19-5, tert-Butoxycarbonyl azide 1120-21-4,  
 Undecane 1125-27-5 1126-78-9 1187-93-5, Perfluoromethyl  
 vinyl ether 1299-86-1, Aluminum carbide 1300-64-7, Anisoyl  
 chloride 1300-71-6, Xylenol 1300-73-8D, derivs. 1303-28-2,  
 Arsenic pentoxide 1303-33-9, Arsenic sulfide  
 (packaging and transport of, stds. for)  
 IT 1303-33-9D, Arsenic sulfide, mixture with chlorates 1304-28-5,  
 Barium oxide, miscellaneous 1304-29-6, Barium peroxide  
 1305-78-8, Calcium oxide, miscellaneous 1305-79-9, Calcium  
 peroxide 1305-99-3, Calcium phosphide 1309-60-0, Lead dioxide  
 1310-58-3, Potassium hydroxide, miscellaneous 1310-65-2, Lithium  
 hydroxide 1310-73-2, Sodium hydroxide, miscellaneous  
 1310-82-3, Rubidium hydroxide 1312-73-8, Potassium sulfide  
 1313-60-6, Sodium peroxide 1313-82-2, Sodium sulfide,  
 miscellaneous 1314-18-7, Strontium peroxide 1314-22-3, Zinc  
 peroxide 1314-24-5, Phosphorus trioxide 1314-34-7, Vanadium  
 trioxide 1314-56-3, Phosphorus pentoxide, miscellaneous  
 1314-62-1, Vanadium pentoxide, miscellaneous 1314-80-3,  
 Phosphorus sulfide (P2S5) 1314-84-7, Zinc phosphide 1314-85-8,  
 Phosphorus sesquisulfide 1319-77-3, Cresylic acid 1320-37-2,  
 Dichlorotetrafluoroethane 1321-10-4, Chlorocresol 1321-31-9,  
 Phenetidine 1327-53-3, Arsenic trioxide 1330-20-7, Xylene,  
 miscellaneous 1330-45-6, Chlorotrifluoroethane 1330-78-5,  
 Tricresyl phosphate 1331-22-2, Methyl cyclohexanone 1332-12-3,  
 Fulminating gold 1332-37-2, Iron oxide, properties 1333-39-7,  
 Phenolsulfonic acid 1333-41-1, Picoline 1333-74-0,  
 Hydrogen, miscellaneous 1333-82-0, Chromium trioxide  
 1333-83-1, Sodium hydrogen fluoride 1335-26-8, Magnesium  
 peroxide 1335-31-5, Mercury oxycyanide 1335-85-9,  
 Dinitro-o-cresol 1336-21-6, Ammonium hydroxide 1337-81-1  
 1338-23-4, Methyl ethyl ketone peroxide 1341-24-8,  
 Chloroacetophenone 1341-49-7, Ammonium hydrogen fluoride  
 1344-40-7, Lead phosphite, dibasic 1344-67-8, Copper chloride  
 1498-40-4, Ethyl phosphonous dichloride 1498-51-7, Ethyl  
 phosphorodichloridate 1569-69-3, Cyclohexyl mercaptan  
 1609-86-5, tert-Butyl isocyanate 1623-15-0 1623-24-1,  
 Isopropyl acid phosphate 1634-04-4, Methyl-tert-butyl ether  
 1693-71-6, Triallyl borate 1705-60-8, 2,2-Di(4,4-di-tert-  
 butylperoxycyclohexyl)propane 1712-64-7, Isopropyl nitrate  
 1719-53-5, Diethyldichlorosilane 1737-93-5, 3,5-Dichloro-2,4,6-  
 trifluoropyridine 1789-58-8, Ethyldichlorosilane 1795-48-8,  
 Isopropyl isocyanate 1838-59-1, Allyl formate 1873-29-6,  
 Isobutyl isocyanate 1885-14-9, Phenylchloroformate 1947-27-9,  
 Arsenic trichloride 2050-92-2, Di-n-amylamine 2094-98-6,  
 1,1'-Azodi(hexahydrobenzonitrile) 2144-45-8, Dibenzyl  
 peroxydicarbonate 2155-71-7 2167-23-9, 2,2-Di(tert-  
 butylperoxy)butane 2217-06-3, Dipicryl sulfide 2243-94-9,  
 1,3,5-Trinitronaphthalene 2244-21-5, Potassium  
 dichloroisocyanurate 2294-47-5, p-Diazidobenzene 2312-76-7  
 2338-12-7, 5-Nitrobenzotriazole 2487-90-3, Trimethoxysilane  
 2508-19-2, Trinitrobenzenesulfonic acid 2524-03-0, Dimethyl  
 chlorothiophosphate 2524-04-1, Diethylthiophosphoryl chloride  
 2549-51-1, Vinyl chloroacetate 2551-62-4, Sulfur hexafluoride  
 2567-83-1, Tetraethylammonium perchlorate 2657-00-3, Sodium  
 2-diazo-1-naphthol-5-sulfonate 2691-41-0,  
 Cyclotetramethylenetetranitramine 2696-92-6, Nitrosyl chloride  
 2699-79-8, Sulfuryl fluoride 2782-57-2, Dichloroisocyanuric acid



2782-57-2D, Dichloroisocyanuric acid, salts 2820-51-1, Nicotine hydrochloride 2825-15-2 2855-13-2, Isophoronediamine 2867-47-2, Dimethylaminoethyl methacrylate 2893-78-9, Sodium dichloroisocyanurate 2937-50-0, Allyl chloroformate 2941-64-2, Ethyl chlorothioformate 2980-64-5 3025-88-5, 2,5-Dimethyl-2,5-dihydroperoxy hexane 3031-74-1, Ethyl hydroperoxide 3032-55-1 3054-95-3, 3,3-Diethoxypropene 3087-37-4, Tetrapropylorthotitanate 3129-90-6, Isothiocyanic acid 3129-91-7, Dicyclohexylammonium nitrite 3132-64-7, Epibromohydrin 3165-93-3, 4-Chloro-o-toluidine hydrochloride 3173-53-3, Cyclohexyl isocyanate 3179-56-4, Acetyl cyclohexanesulfonyl peroxide 3188-13-4, Chloromethyl ethyl ether 3248-28-0, Dipropionyl peroxide 3268-49-3 3275-73-8, Nicotine tartrate 3282-30-2, Trimethylacetyl chloride 3497-00-5, Phenyl phosphorus thiodichloride 3689-24-5 3724-65-0, Crotonic acid 3811-04-9, Potassium chlorate 3926-62-3, Sodium chloroacetate 3982-91-0, Thiophosphoryl chloride 4016-11-9, 1,2-Epoxy-3-ethoxypropane 4098-71-9 4109-96-0, Dichlorosilane 4170-30-3, Crotonaldehyde 4300-97-4 4316-42-1, N-n-Butylimidazole 4419-11-8, 2,2'-Azodi(2,4-dimethylvaleronitrile) 4421-50-5 4435-53-4, Butoxyl 4452-58-8, Sodium percarbonate 4472-06-4, Carbonazidodithioic acid 4484-72-4, Dodecyltrichlorosilane 4528-34-1 4547-70-0 4591-46-2 4682-03-5, Diazodinitrophenol 4795-29-3, Tetrahydrofurfurylamine 4904-61-4, 1,5,9-Cyclododecatriene 5283-66-9, Octyltrichlorosilane 5283-67-0, Nonyltrichlorosilane 5329-14-6, Sulfamic acid 5419-55-6, Triisopropyl borate 5610-59-3, Silver fulminate 5637-83-2, Cyanuric triazide 5653-21-4 5894-60-0, Hexadecyltrichlorosilane 5970-32-1, Mercury salicylate 6023-29-6 6275-02-1 6423-43-4 6427-21-0, Methoxymethyl isocyanate 6484-52-2, Nitric acid ammonium salt, properties 6484-52-2D, Ammonium nitrate, mixts. with fuel oils 6505-86-8, Nicotine sulfate 6659-60-5, 1,2,4-Butanetriol trinitrate 6842-15-5, Propylene tetramer 6867-30-7, Lithium acetylide ethylenediamine complex 7304-92-9 7332-16-3, Inositol hexanitrate 7429-90-5, Aluminum, miscellaneous 7429-90-5D, Aluminum, alkyl derivs. 7439-90-9, Krypton, miscellaneous 7439-92-1D, Lead, compds. 7439-93-2, Lithium, miscellaneous 7439-93-2D, Lithium, alkyl derivs. 7439-95-4, Magnesium, miscellaneous 7439-95-4D, Magnesium, alkyl derivs. 7439-97-6, Mercury, miscellaneous 7439-97-6D, Mercury, compds. 7440-01-9, Neon, miscellaneous 7440-09-7, Potassium, miscellaneous 7440-17-7, Rubidium, miscellaneous 7440-21-3, Silicon, miscellaneous 7440-23-5, Sodium, miscellaneous 7440-28-0D, Thallium, compds. 7440-29-1, Thorium, miscellaneous 7440-31-5D, Tin, organic compds. 7440-32-6, Titanium, properties 7440-36-0, Antimony, miscellaneous 7440-36-0D, Antimony, inorg. and organic compds. 7440-37-1, Argon, miscellaneous 7440-38-2, Arsenic, miscellaneous 7440-39-3, Barium, miscellaneous 7440-39-3D, Barium, alloys 7440-39-3D, Barium, compds. 7440-41-7, Beryllium, miscellaneous 7440-41-7D, Beryllium, compds. 7440-43-9D, Cadmium, compds. 7440-44-0, Carbon, miscellaneous 7440-45-1, Cerium, miscellaneous 7440-46-2, Cesium, miscellaneous 7440-55-3, Gallium, miscellaneous 7440-58-6, Hafnium, miscellaneous 7440-59-7, Helium, miscellaneous 7440-61-1, Uranium, miscellaneous 7440-63-3, Xenon, miscellaneous 7440-66-6, Zinc, miscellaneous 7440-67-7, Zirconium, miscellaneous 7440-70-2, Calcium, miscellaneous 7440-70-2D, Calcium, alloys 7446-09-5, Sulfur dioxide, miscellaneous 7446-11-9, Sulfur trioxide, miscellaneous

7446-14-2, Lead sulfate 7446-18-6, Thallium sulfate 7446-70-0, Aluminum chloride (AlCl<sub>3</sub>), miscellaneous 7487-94-7, Mercuric chloride, miscellaneous 7488-56-4, Selenium disulfide 7521-80-4, Butyltrichlorosilane 7550-45-0, Titanium tetrachloride, miscellaneous 7570-26-5, 1,2-Dinitroethane 7572-29-4, Dichloroacetylene 7578-36-1 7580-67-8, Lithium hydride 7601-89-0, Sodium perchlorate 7601-90-3, Perchloric acid, miscellaneous 7616-94-6, Perchloryl fluoride 7631-89-2, Sodium arsenate 7631-99-4, Sodium nitrate, miscellaneous 7632-00-0, Sodium nitrite 7632-51-1, Vanadium tetrachloride 7637-07-2, Boron trifluoride, miscellaneous 7645-25-2, Lead arsenate 7646-69-7, Sodium hydride 7646-78-8, Stannic chloride, miscellaneous 7646-85-7, Zinc chloride, miscellaneous 7646-93-7, Potassium hydrogen sulfate 7647-01-0, Hydrogen chloride, miscellaneous 7647-18-9, Antimony pentachloride 7647-19-0, Phosphorus pentafluoride 7664-38-2, Phosphoric acid, miscellaneous 7664-38-2D, Phosphoric acid, esters 7664-39-3, Hydrogen fluoride, miscellaneous 7664-41-7, Ammonia, miscellaneous 7664-93-9, Sulfuric acid, miscellaneous 7681-38-1, Sodium hydrogen sulfate 7681-49-4, Sodium fluoride, miscellaneous 7681-52-9, Sodium hypochlorite 7697-37-2, Nitric acid, miscellaneous 7704-34-9, Sulfur, miscellaneous (packaging and transport of, stds. for)

IT 7705-07-9D, Titanium trichloride, mixts. 7705-08-0, Ferric chloride, miscellaneous 7718-98-1, Vanadium trichloride 7719-09-7, Thionyl chloride 7719-12-2, Phosphorus trichloride 7722-64-7, Potassium permanganate 7722-84-1, Hydrogen peroxide (H<sub>2</sub>O<sub>2</sub>), miscellaneous 7723-14-0, Phosphorus, miscellaneous 7726-95-6, Bromine, miscellaneous 7727-15-3, Aluminum bromide 7727-18-6, Vanadium oxytrichloride 7727-21-1, Potassium persulfate 7727-37-9, Nitrogen, miscellaneous 7727-37-9D, Nitrogen, mixts. with rare gases 7727-54-0, Ammonium persulfate 7738-94-5, Chromic acid (H<sub>2</sub>CrO<sub>4</sub>) 7756-94-7, Triisobutylene 7757-79-1, Potassium nitrate, miscellaneous 7758-01-2, Potassium bromate 7758-09-0, Potassium nitrite 7758-19-2, Sodium chlorite 7758-94-3, Ferrous chloride 7761-88-8, Silver nitrate, miscellaneous 7773-03-7, Potassium bisulfite 7775-09-9, Sodium chlorate 7775-14-6, Sodium dithionite 7778-39-4, Arsenic acid 7778-44-1, Calcium arsenate 7778-54-3, Calcium hypochlorite 7778-66-7 7778-74-7, Potassium perchlorate 7779-86-4, Zinc dithionite 7779-88-6, Zinc nitrate 7782-39-0, Deuterium, miscellaneous 7782-41-4, Fluorine, miscellaneous 7782-44-7, Oxygen, miscellaneous 7782-44-7D, Oxygen, mixts. with rare gases 7782-49-2, Selenium, miscellaneous 7782-50-5, Chlorine, miscellaneous 7782-65-2, Germane 7782-78-7, Nitrosylsulfuric acid 7782-79-8D, Hydrazoic acid, copper complexes 7782-99-2, Sulfurous acid, miscellaneous 7783-06-4, Hydrogen sulfide, miscellaneous 7783-07-5, Hydrogen selenide (H<sub>2</sub>Se) 7783-08-6, Selenic acid 7783-33-7 7783-41-7, Oxygen difluoride 7783-54-2, Nitrogen trifluoride 7783-56-4, Antimony trifluoride 7783-60-0, Sulfur tetrafluoride 7783-61-1, Silicon tetrafluoride 7783-66-6, Iodine pentafluoride 7783-70-2, Antimony pentafluoride 7783-79-1, Selenium hexafluoride 7783-80-4, Tellurium hexafluoride 7783-81-5, Uranium hexafluoride 7783-82-6, Tungsten hexafluoride 7783-91-7, Silver chlorite 7784-08-9 7784-21-6, Aluminum hydride 7784-30-7, Aluminum phosphate 7784-42-1, Arsine 7784-46-5, Sodium arsenite 7786-30-3D, Magnesium chloride (MgCl<sub>2</sub>), mixture with chlorates 7787-36-2, Barium permanganate 7787-41-9, Barium selenate 7787-71-5, Bromine trifluoride

7788-97-8, Chromic fluoride 7789-09-5, Ammonium dichromate  
 7789-18-6, Cesium nitrate 7789-21-1, Fluorosulfonic acid  
 7789-23-3, Potassium fluoride 7789-29-9, Potassium bifluoride  
 7789-30-2, Bromine pentafluoride 7789-38-0, Sodium bromate  
 7789-59-5, Phosphorus oxybromide 7789-60-8, Phosphorus  
 tribromide 7789-61-9, Antimony tribromide 7789-69-7,  
 Phosphorus pentabromide 7789-78-8, Calcium hydride 7790-59-2  
 7790-69-4, Lithium nitrate 7790-91-2, Chlorine trifluoride  
 7790-93-4, Chloric acid 7790-94-5, Chlorosulfonic acid  
 7790-98-9, Ammonium perchlorate 7790-99-0, Iodine monochloride  
 7791-10-8, Strontium chlorate 7791-23-3, Selenium oxychloride  
 7791-25-5, Sulfuryl chloride 7791-27-7, Disulfuryl chloride  
 7803-51-2, Phosphine 7803-52-3, Stibine 7803-54-5, Magnesium  
 diamide 7803-55-6, Ammonium metavanadate 7803-57-8, Hydrazine  
 hydrate 7803-62-5, Silane, miscellaneous 7803-63-6, Ammonium  
 hydrogen sulfate 8004-09-9 8006-19-7, Amatol 8006-28-8, Soda  
 lime 8007-56-5, Nitrohydrochloric acid 8007-58-7 8012-74-6,  
 London Purple 8014-95-7, Fuming sulfuric acid 8049-17-0,  
 Ferrosilicon 8050-88-2, Celluloid 8063-77-2 8065-53-0,  
 Hexolite 8066-33-9, Pentolite 8070-50-6 9003-53-6,  
 Polystyrene 9004-70-0, Collodion 9056-38-6, Nitrostarch  
 9080-17-5, Ammonium polysulfide 10022-31-8, Barium nitrate  
 10024-97-2, Nitrogen oxide (N<sub>2</sub>O), properties 10025-78-2,  
 Trichlorosilane 10025-85-1, Nitrogen trichloride 10025-87-3,  
 Phosphorus oxychloride 10025-91-9, Antimony trichloride  
 10026-04-7, Silicon tetrachloride 10026-11-6, Zirconium  
 tetrachloride 10026-13-8, Phosphorus pentachloride 10031-13-7  
 10031-87-5, 2-Ethylbutyl acetate 10034-81-8, Magnesium  
 perchlorate 10034-85-2, Hydrogen iodide 10035-10-6, Hydrogen  
 bromide, miscellaneous 10039-54-0, Hydroxylamine sulfate  
 10042-76-9, Strontium nitrate 10045-94-0, Mercuric nitrate  
 10049-04-4, Chlorine dioxide 10099-74-8, Lead nitrate  
 10101-50-5 10102-06-4, Uranyl nitrate 10102-12-2, Selenium  
 nitride 10102-18-8, Sodium selenite 10102-43-9, Nitric oxide,  
 miscellaneous 10102-44-0, Nitrogen dioxide, miscellaneous  
 10102-49-5, Ferric arsenate 10102-50-8, Ferrous arsenate  
 10103-50-1, Magnesium arsenate 10118-76-0 10124-37-5, Calcium  
 nitrate 10124-48-8, Mercury ammonium chloride 10124-50-2,  
 Potassium arsenite 10137-74-3, Calcium chlorate 10192-29-7,  
 Ammonium chlorate 10241-05-1, Molybdenum pentachloride  
 10256-53-8, Methanamine, compound with trinitromethane,  
 miscellaneous 10294-33-4, Boron tribromide 10294-34-5, Boron  
 trichloride 10306-83-9 10326-21-3, Magnesium chlorate  
 10326-24-6 10361-95-2, Zinc chlorate 10377-60-3, Magnesium  
 nitrate 10377-66-9, Manganese nitrate 10415-75-5, Mercurous  
 nitrate 10421-48-4, Ferric nitrate 10431-47-7 10544-63-5,  
 Ethyl crotonate 11069-19-5, Dichlorobutene 11071-47-9,  
 Isooctene 11099-22-2 11105-16-1, Zirconium hydride  
 11122-26-2 11135-81-2 11138-49-1, Sodium aluminate  
 11140-68-4, Titanium hydride 12001-29-5, Chrysotile  
 12002-19-6, Mercury nucleate 12002-48-1, Trichlorobenzene  
 12030-88-5, Potassium superoxide 12031-80-0, Lithium peroxide  
 12033-49-7, Nitrogen trioxide 12034-12-7, Sodium superoxide  
 12057-74-8, Magnesium phosphide (Mg<sub>3</sub>P<sub>2</sub>) 12125-01-8, Ammonium  
 fluoride 12135-76-1, Ammonium sulfide 12136-15-1, Mercury  
 nitride 12164-94-2, Ammonium azide 12167-20-3, Nitrocresol  
 12172-67-7, Actinolite 12401-70-6, Potassium monoxide  
 12401-86-4, Sodium monoxide 12427-38-2, Maneb 12440-42-5, Tin  
 phosphide (Sn<sub>3</sub>P<sub>4</sub>) 12504-16-4, Strontium phosphide (Sr<sub>3</sub>P<sub>2</sub>)  
 12627-52-0, Antimony sulfide 12627-52-0D, Antimony sulfide,

mixture with chlorates 12640-89-0, Selenium oxide 12653-71-3,  
 Mercury oxide 12737-18-7, Calcium silicide 12751-03-0, Cordite  
 12771-08-3, Sulfur chloride 12789-46-7, Amyl acid phosphate  
 13092-75-6, Silver acetylide 13138-45-9 13225-10-0,  
 $\alpha$ -Methylglucoside tetranitrate 13319-75-0, Boron  
 trifluoride dihydrate 13410-01-0, Sodium selenate 13424-46-9,  
 Lead azide 13426-91-0, Cupriethylenediamine 13437-80-4,  
 Mercuric arsenate 13444-85-4, Nitrogen triiodide 13446-10-i,  
 Ammonium permanganate 13446-48-5, Ammonium nitrite 13450-97-0,  
 Strontium perchlorate 13453-30-0, Thallium chlorate  
 13463-39-3, Nickel carbonyl 13463-40-6, Iron pentacarbonyl  
 13464-33-0, Zinc arsenate 13464-58-9D, Arsenous acid, copper  
 complexes 13465-73-1, Bromosilane 13465-95-7, Barium  
 perchlorate 13472-08-7 13473-90-0, Aluminum nitrate  
 13477-00-4, Barium chlorate 13477-10-6, Barium hypochlorite  
 13477-36-6, Calcium perchlorate 13520-83-7, Uranyl nitrate  
 hexahydrate 13537-32-1, Fluorophosphoric acid 13548-38-4,  
 Chromium nitrate 13597-54-1, Zinc selenate 13597-99-4,  
 Beryllium nitrate 13598-36-2, Phosphonic acid 13637-63-3,  
 Chlorine pentafluoride 13637-76-8, Lead perchlorate 13718-59-7  
 13746-89-9, Zirconium nitrate 13762-51-1, Potassium borohydride  
 13766-44-4, Mercury sulfate 13769-43-2, Potassium metavanadate  
 13770-96-2, Sodium aluminum hydride 13774-25-9 13779-41-4,  
 Difluorophosphoric acid 13780-03-5, Calcium bisulfite  
 (packaging and transport of, stds. for)  
 IT 13823-29-5, Thorium nitrate 13840-33-0, Lithium hypochlorite  
 13840-33-0D, Lithium hypochlorite, mixts. 13843-59-9, Ammonium  
 bromate 13863-88-2, Silver azide 13967-90-3, Barium bromate  
 13973-87-0, Bromine azide 13973-88-1, Chlorine azide  
 13987-01-4, Tripropylene 14014-86-9 14019-91-1, Calcium  
 selenate 14293-73-3 14448-38-5, Hyponitrous acid 14519-07-4,  
 Zinc bromate 14519-17-6, Magnesium bromate 14546-44-2,  
 Hydrazine azide 14567-73-8, Tremolite 14644-61-2, Zirconium  
 sulfate 14666-78-5, Diethylperoxydicarbonate 14674-72-7,  
 Calcium chlorite 14696-82-3, Iodine azide (I(N<sub>3</sub>)) 14977-61-8  
 15195-06-9 15245-44-0, Lead trinitroresorcinate 15347-57-6,  
 Lead acetate 15457-98-4 15512-36-4, Calcium dithionite  
 15545-97-8, 2,2'-Azodi(2,4-dimethyl-4-methoxyvaleronitile)  
 15598-34-2, Pyridine perchlorate 15718-71-5, Ethylenediamine  
 diperchlorate 15825-70-4, Mannitol hexanitrate 15875-44-2,  
 Methylamine perchlorate 16215-49-9, Di-n-butyl peroxydicarbonate  
 16229-43-9, Vanadyl sulfate 16339-86-9 16646-35-8  
 16721-80-5, Sodium hydrosulfide 16753-36-9, Copper acetylide  
 16853-85-3, Lithium aluminum hydride 16871-71-9, Zinc  
 fluorosilicate 16871-90-2, Potassium fluorosilicate 16872-11-0  
 16893-85-9, Sodium fluorosilicate 16901-76-1, Thallium nitrate  
 16919-19-0, Ammonium fluorosilicate 16940-66-2, Sodium  
 borohydride 16940-81-1, Hexafluorophosphoric acid 16941-12-1,  
 Chloroplatinic acid 16949-15-8, Lithium borohydride  
 16949-65-8, Magnesium fluorosilicate 16961-83-4, Fluorosilicic  
 acid 16962-07-5, Aluminum borohydride 17014-71-0, Potassium  
 peroxide 17068-78-9, Anthophyllite 17462-58-7, sec-Butyl  
 chloroformate 17639-93-9, Methyl-2-chloropropionate  
 17702-41-9, Decaborane 17861-62-0 18130-44-4, Titanium sulfate  
 18414-36-3 18810-58-7, Barium azide 19159-68-3 19287-45-7,  
 Diborane 19287-45-7D, Diborane, mixts. 19624-22-7, Pentaborane  
 20062-22-0 20236-55-9, Barium styphnate 20600-96-8  
 20816-12-0, Osmium tetroxide 20820-44-4 20859-73-8, Aluminum  
 phosphide 21351-79-1, Cesium hydroxide (Cs(OH)) 21569-01-7  
 21723-86-4 21985-87-5, Pentanitroaniline 22128-62-7,

Chloromethylchloroformate 22750-93-2, Ethyl perchlorate  
 22751-24-2 22826-61-5 23414-72-4, Zinc permanganate  
 23745-86-0, Potassium fluoroacetate 24167-76-8, Sodium phosphide  
 24468-13-1, 2-Ethylhexylchloroformate 24884-69-3 25013-15-4,  
 Vinyl toluene 25109-57-3 25134-21-8 25136-55-4,  
 Dimethyldioxane 25154-42-1, Chlorobutane 25154-54-5,  
 Dinitrobenzene 25155-15-1, Cymene 25167-20-8, Tetrabromoethane  
 25167-67-3, Butylene 25167-70-8, Diisobutylene 25167-80-0,  
**Chlorophenol** 25168-05-2, Chlorotoluene 25265-68-3,  
 Methyltetrahydrofuran 25321-14-6, Dinitrotoluene 25322-01-4,  
 Nitropropane 25322-20-7, Tetrachloroethane 25323-30-2,  
 Dichloroethylene 25339-56-4, Heptene 25340-17-4,  
 Diethylbenzene 25377-72-4, n-Amylene 25496-08-6, Fluorotoluene  
 25497-28-3, Difluoroethane 25497-29-4, Chlorodifluoroethane  
 25513-64-8 25550-53-2 25550-55-4, Dinitrosobenzene  
 25550-58-7, **Dinitrophenol** 25550-58-7D,  
**Dinitrophenol**, salts 25567-67-3, Chlorodinitrobenzene  
 25567-68-4, Chloronitrotoluene 25639-42-3, Methylcyclohexanol  
 25721-38-4, Lead picrate 25917-35-5, Hexanol 26134-62-3,  
 Lithium nitride 26140-60-3D, Terphenyl, halo derivs.  
 26249-12-7, Dibromobenzene 26471-56-7, Dinitroaniline  
 26471-62-5, Toluene diisocyanate 26506-47-8, Copper chlorate  
 26571-79-9 26618-70-2 26628-22-8, Sodium azide 26638-19-7,  
 Dichloropropane 26645-10-3 26760-64-5, Isopentene 26762-93-6  
 26914-02-3, Iodopropane 26915-12-8, Toluidine 26952-23-8,  
 Dichloropropene 26952-42-1, Trinitroaniline 27134-26-5,  
 Chloroaniline 27134-27-6, Dichloroaniline 27137-85-5,  
 Dichlorophenyltrichlorosilane 27152-57-4 27176-87-0,  
 Dodecylbenzenesulfonic acid 27195-67-1, Dimethylcyclohexane  
 27215-10-7 27236-46-0, Isohexene 27254-36-0, Nitronaphthalene  
 27458-20-4, Butyltoluene 27978-54-7, Hydrazine perchlorate  
 27986-95-4 27987-06-0, Trifluoroethane 28260-61-9,  
 Trinitrochlorobenzene 28300-74-5, Antimony potassium tartrate  
 28324-52-9, Pinane hydroperoxide 28479-22-3 28653-16-9  
 28679-16-5, Trimethylhexamethylenediisocyanate 28805-86-9,  
**Butylphenol** 29191-52-4, Anisidine 29306-57-8  
 29790-52-1, Nicotine salicylate 29903-04-6 29965-97-7,  
 Cyclooctadiene 30236-29-4, Sucrose octanitrate  
 30525-89-4, Paraformaldehyde 30553-04-9,  
 Naphthylthiourea 30586-10-8, Dichloropentane 30586-18-6,  
 Pentamethylheptane 31058-64-7 31212-28-9, Nitrobenzenesulfonic  
 acid 33453-96-2 33864-17-4 34216-34-7,  
 Trimethylcyclohexylamine 35296-72-1, Butanol 35860-50-5,  
 Trinitrobenzoic acid 35860-51-6, Dinitroresorcinol 35884-77-6,  
 Xylyl bromide 36472-34-1, Chloropropene 37020-93-2, Mercury  
 cyanide (Hg(CN)) 37187-22-7, Acetyl acetone peroxide  
 37206-20-5, Methyl isobutyl ketone peroxide 37273-91-9,  
 Metaldehyde 37320-91-5, Mercury iodide 37368-10-8, Aluminum  
 vanadium oxide 38139-71-8, Bromide chloride 38232-63-2,  
 Mercurous azide 38483-28-2, Methylene glycol dinitrate  
 39377-49-6, Copper cyanide 39377-56-5, Lead sulfide  
 39404-03-0, Magnesium silicide 39409-64-8, TVOPA 39432-81-0  
 39455-80-6, Ammonium sodium vanadium oxide 40058-87-5,  
 Isopropyl-2-chloropropionate 41195-19-1 41587-36-4,  
 Chloronitroaniline 42296-74-2, Hexadiene 43133-95-5,  
 Methylpentane 50815-73-1 50874-93-6 51006-59-8 51023-22-4,  
 Trichlorobutene 51064-12-1 51312-23-3, Mercury bromide  
 51317-24-9, Lead nitroresorcinol 51325-42-9, Copper selenite  
 51845-86-4, Ethyl borate 52181-51-8 53014-37-2,  
 Tetranitroaniline 53408-91-6, Mercury thiocyanate 53422-49-4

53569-62-3 53839-08-0 53906-68-6 54141-09-2, 1,4,-Butynediol  
 54413-15-9, Tritonal 54727-89-8 54958-71-3 55510-04-8,  
 Dinitroglycoluril 55810-17-8 56929-36-3 56960-91-9  
 57607-37-1, Octolite 58164-88-8, Antimony lactate 58499-37-9  
 58933-55-4 59753-21-8 59917-23-6 60168-33-4 60616-74-2,  
 Magnesium hydride 60869-68-3 60999-18-0 61061-91-4  
 61878-56-6 63085-06-3 63283-80-7, Dichloroisopropyl ether  
 63597-41-1, Octadiene 63885-01-8 63907-41-5 63937-14-4  
 63938-10-3, Chlorotetrafluoroethane 63988-31-8 64173-96-2  
 64973-06-4, Arsenic bromide  
 (packaging and transport of, stds. for)

L56 ANSWER 11 OF 21 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1991:669531 HCAPLUS

DOCUMENT NUMBER: 115:269531

TITLE: Multi-analyte electrolytic-cell sensor with a permeable membrane

INVENTOR(S): Joseph, Jose P.; Madou, Marc J.

PATENT ASSIGNEE(S): Commtech International, USA

SOURCE: PCT Int. Appl., 22 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

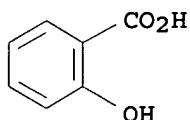
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9111710	A1	19910808	WO 1991-US358	1991 0117
W: CA, JP				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LU, NL, SE				
US 5183549	A	19930202	US 1990-470954	1990 0126
CA 2074511	AA	19910727	CA 1991-2074511	1991 0117
EP 512070	A1	19921111	EP 1991-904837	1991 0117
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE				
PRIORITY APPLN. INFO.: US 1990-470954 A				
				1990 0126
WO 1991-US358				W
				1991 0117

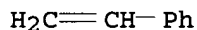
AB An electrolytic sensor measures the amts. of ionic and vapor substances in a liquid, where the system has an electrode sensitive to the ionic substance and another electrode sensitive to the vapor substance. A unitary membrane covers the electrodes and the requisite electrolyte with the membrane being permeable to the vapor substance, impermeable to the liquid and having dispersed in it an ionophore which senses the ionic substance via selective transfer into the membrane of a quantity of the ionic substance

determined by the concentration of the ionic substance in the liquid. Such quantities as H<sup>+</sup>, CO<sub>2</sub>, and O can be determined by a single electrolytic cell structure.

IT 69-72-7, analysis  
(determination of, multi-analyte electrolytic-cell sensor with permeable membrane for)  
RN 69-72-7 HCAPLUS  
CN Benzoic acid, 2-hydroxy- (9CI) (CA INDEX NAME)



IT 9003-53-6, Polystyrene  
(membranes, multi-analyte electrolytic-cell sensors containing)  
RN 9003-53-6 HCAPLUS  
CN Benzene, ethenyl-, homopolymer (9CI) (CA INDEX NAME)  
  
CM 1  
  
CRN 100-42-5  
CMF C8 H8



IC ICM G01N027-31  
CC 79-2 (Inorganic Analytical Chemistry)  
IT 61-90-5, L-Leucine, analysis 63-91-2, L-Phenylalanine, analysis  
64-19-7, Acetic acid, analysis 65-85-0, Benzoic acid, analysis  
69-72-7, analysis 71-50-1, analysis 74-90-8, Hydrogen  
cyanide, analysis 124-38-9, Carbon dioxide, analysis 302-04-5,  
Thiocyanate, analysis 630-08-0, Carbon monoxide, analysis  
1333-74-0, Hydrogen, analysis 7446-09-5, Sulfur dioxide,  
analysis 7446-11-9, Sulfur trioxide, analysis 7664-39-3,  
Hydrofluoric acid, analysis 7664-41-7, Ammonia, analysis  
7727-37-9, Nitrogen, analysis 7782-44-7, Oxygen, analysis  
7783-06-4, Hydrogen sulfide, analysis 10024-97-2, Nitrogen oxide  
(N<sub>2</sub>O), analysis 14797-55-8, Nitrate, analysis 14797-73-0,  
Perchlorate 14808-79-8, Sulfate, analysis  
(determination of, multi-analyte electrolytic-cell sensor with permeable membrane for)  
IT 9002-86-2, Poly(vinyl chloride) 9003-53-6, Polystyrene  
9004-35-7 9011-14-7 25037-45-0, Poly(bisphenol-A carbonate)  
(membranes, multi-analyte electrolytic-cell sensors containing)

L56 ANSWER 12 OF 21 HCAPLUS COPYRIGHT 2005 ACS on STN  
ACCESSION NUMBER: 1991:627836 HCAPLUS  
DOCUMENT NUMBER: 115:227836  
TITLE: Immobilization of ligands by radio-derivatized polymers, and their use in immunoassays and other biological applications  
INVENTOR(S): Varga, Janos M.; Fritsch, Peter  
PATENT ASSIGNEE(S): Epipharm Allergie-Service G.m.b.H., Austria  
SOURCE: PCT Int. Appl., 50 pp.

DOCUMENT TYPE: CODEN: PIXXD2  
 LANGUAGE: Patent  
 FAMILY ACC. NUM. COUNT: English  
 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9102768	A1	19910307	WO 1990-EP1362	1990 0818
W: AU, BR, CA, FI, HU, JP, KR, NO, SU RW: AT, BE, CH, DE, DK, ES, FR, GB, IT, LU, NL, SE				
AT 8901976	A	19931015	AT 1989-1976	1989 0821
AT 397723	B	19940627		
US 5196478	A	19930323	US 1990-507348	1990 0409
CA 2039702	AA	19910222	CA 1990-2039702	1990 0818
AU 9061823	A1	19910403	AU 1990-61823	1990 0818
EP 439585	A1	19910807	EP 1990-912436	1990 0818
EP 439585	B1	19971029		
R: AT, BE, CH, DE, DK, ES, FR, GB, IT, LI, LU, NL, SE				
JP 04502934	T2	19920528	JP 1990-511733	1990 0818
AT 159745	E	19971115	AT 1990-912436	1990 0818
NO 9101564	A	19910620	NO 1991-1564	1991 0419
NO 176668	B	19950130		
NO 176668	C	19950510		
FI 102079	B1	19981015	FI 1991-1912	1991 0419
PRIORITY APPLN. INFO.:				
			AT 1989-1976	A 1989 0821
			US 1990-507348	A 1990 0409
			WO 1990-EP1362	A 1990 0818

AB Radio-derivatized polymers (RDPs) are produced by contacting nonpolymerizable conjugands (e.g. aromatic amines) with radiolysable



polymers in the presence of radiation. The resulting RDPs can be further linked with ligands for their immobilization. Depending on the type of conjugand used, the method produces functionalized or reactive RDPs. The RDPs have improved adsorptive and ion-binding characteristics, and can be used for cell/tissue culture substrates, chromatog. sorbents, immunoassays and other binding assays, etc. Thus, m-phenylene diamine was added to polystyrene microtiter plate wells which were then either irradiated with a  $^{60}\text{Co}$   $\gamma$ -source or, for controls, kept at room temperature for the same time as the irradiated plates. The % coupling of RNase to irradiated and nonirradiated material was 3.7 and 1.4%, resp. The binding of other proteins and other compds. of biol. interest to a variety of RDPs is presented, as is a binding assay for dinitrophenyl-specific IgE antibodies.

IT 9003-53-6D, Polystyrol, DL-2-amino-1-(4-hydroxyphenyl)-ethanol-1 radioderivs.  
(acetic acid immobilization on, ethyldiethylaminopropyl carbodiimide-mediated)

RN 9003-53-6 HCAPLUS

CN Benzene, ethenyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 100-42-5

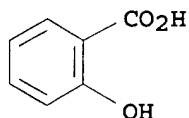
CMF C8 H8

$\text{H}_2\text{C}=\text{CH}-\text{Ph}$

IT 69-72-7, biological studies  
(conjugand-radioderivatized polystyrene ethyldiethylaminopropyl carbodiimide-mediated uptake of)

RN 69-72-7 HCAPLUS

CN Benzoic acid, 2-hydroxy- (9CI) (CA INDEX NAME)



IT 9003-53-6D, Polystyrene, conjugand radioderivatized  
(for ligand immobilization)

RN 9003-53-6 HCAPLUS

CN Benzene, ethenyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 100-42-5

CMF C8 H8

$\text{H}_2\text{C}=\text{CH}-\text{Ph}$

IC ICM C08J007-12

ICS C08J007-00; C07K017-06; C12N011-06; G01N033-543; C12Q001-68

CC 9-14 (Biochemical Methods)

Section cross-reference(s): 15, 16, 74

- IT Myosins  
(immobilization of, on **aminophenol**-polystyrene radioderivatized polymer)
- IT 61-54-1D, Tryptamine, polystyrene radiolysis reaction products  
91-59-8D, 2-Naphthalenamine, polystyrene radiolysis reaction products  
95-54-5D, o-Phenylene diamine, polystyrene radiolysis reaction products  
95-80-7D, polystyrene radiolysis reaction products  
95-85-2D, 2-Amino-4-**chlorophenol**, polystyrene radiolysis reaction products  
104-14-3D, polystyrene radiolysis reaction products  
108-45-2D, m-Phenylenediamine, polystyrene radiolysis reaction products  
118-92-3D, o-Aminobenzoic acid, polystyrene radiolysis reaction products  
123-30-8D, p-**Aminophenol**, polystyrene radiolysis reaction products  
134-32-7D, 1-Naphthylamine, polystyrene radiolysis reaction products  
141-86-6D, 2,6-Diaminopyridine, polystyrene radiolysis reaction products  
479-27-6D, 1,8-Naphthalenediamine, polystyrene radiolysis reaction products  
938-25-0D, 1,2-Naphthalenediamine, polystyrene radiolysis reaction products  
1445-39-2D, polystyrene radiolysis reaction products  
19243-04-0D, polystyrene radiolysis reaction products  
(Hb and RNase immobilization on)
- IT 9003-53-6D, Polystyrol, DL-2-amino-1-(4-hydroxyphenyl)-ethanol-1 radioderivs.  
(acetic acid immobilization on, ethyldiethylaminopropyl carbodiimide-mediated)
- IT 1084-76-0 56-40-6, Glycine, biological studies 64-19-7, Acetic acid, biological studies 65-85-0, Benzoic acid, biological studies 69-72-7, biological studies  
(conjugand-radioderivatized polystyrene ethyldiethylaminopropyl carbodiimide-mediated uptake of)
- IT 9003-53-6D, Polystyrene, conjugand radioderivatized (for ligand immobilization)
- IT 9001-75-6, Pepsin  
(immobilization of, on **aminophenol**-polystyrene radioderivatized polymer)
- IT 2425-79-8, 1,4-Butanediol diglycidyl ether 25985-26-6 26471-62-5  
(protein coupling to **aminophenol**-polystyrene radioderivatized polymer with)

L56 ANSWER 13 OF 21 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1991:618938 HCAPLUS

DOCUMENT NUMBER: 115:218938

TITLE: Dispersing agent for color-developers for pressure-sensitive paper

INVENTOR(S): Shimada, Toshiro; Nishigaito, Yasushi

PATENT ASSIGNEE(S): Sanyo Chemical Industries Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	
JP 03065381	A2	19910320	JP 1989-203495	1989

0804

JP 2724412  
PRIORITY APPLN. INFO.:

B2 19980309

JP 1989-203495

1989  
0804

AB The title dispersing agent is made of a water-soluble or water-dispersible copolymer having structural units of a monomer containing a sulfonic acid (its salt) group and a hydrophobic vinyl monomer. The color developer dispersion using the agent shows good stability, and pressure-sensitive paper obtained therefrom exhibits good coloring properties. Thus, an aqueous dispersion containing Bu methacrylate-styrene copolymer Na sulfonate derivative and Zn salt of p-cyclohexylphenol-bisphenol A-phenol-formaldehyde copolymer was coated on a paper support to give a color developer sheet.

IT 80389-57-7 118821-59-3D, zincated  
(color-developer, dispersed, pressure-sensitive copying paper using)

RN 80389-57-7 HCAPLUS

CN Formaldehyde, polymer with 4-cyclohexylphenol, 4,4'-(1-methylethylidene)bis[phenol] and phenol, zinc salt (9CI)  
(CA INDEX NAME)

CM 1

CRN 80389-56-6

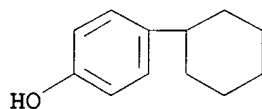
CMF (C15 H16 O2 . C12 H16 O . C6 H6 O . C H2 O)x

CCI PMS

CM 2

CRN 1131-60-8

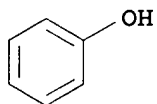
CMF C12 H16 O



CM 3

CRN 108-95-2

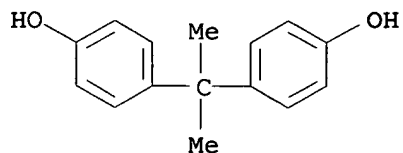
CMF C6 H6 O



CM 4

CRN 80-05-7

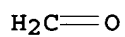
CMF C15 H16 O2



CM 5

CRN 50-00-0

CMF C H2 O



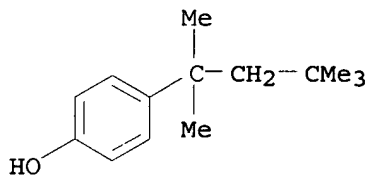
RN 118821-59-3 HCAPLUS

CN Benzoic acid, 2-hydroxy-, polymer with 4-(1,1,3,3-tetramethylbutyl)phenol and 1,3,5-trimethylbenzene (9CI) (CA INDEX NAME)

CM 1

CRN 140-66-9

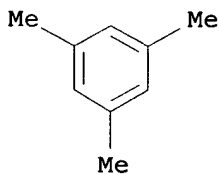
CMF C14 H22 O



CM 2

CRN 108-67-8

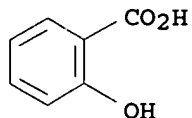
CMF C9 H12



CM 3

CRN 69-72-7

CMF C7 H6 O3

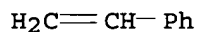


IT 25034-86-0D, Methyl methacrylate-styrene copolymer,  
sulfonated, sodium salt 25213-39-2D, Butyl  
methacrylate-styrene copolymer, sulfonated, sodium salt  
32761-10-7D, Stearyl methacrylate-styrene copolymer,  
sulfonated, sodium salt 37218-15-8D,  
Styrene-vinyltoluene copolymer, sulfonated, sodium salt  
(dispersing agent, for color-developer, for pressure-sensitive  
copying paper)  
RN 25034-86-0 HCAPLUS  
CN 2-Propenoic acid, 2-methyl-, methyl ester, polymer with  
ethenylbenzene (9CI) (CA INDEX NAME)

CM 1

CRN 100-42-5

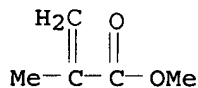
CMF C8 H8



CM 2

CRN 80-62-6

CMF C5 H8 O2

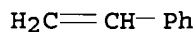


RN 25213-39-2 HCAPLUS  
CN 2-Propenoic acid, 2-methyl-, butyl ester, polymer with  
ethenylbenzene (9CI) (CA INDEX NAME)

CM 1

CRN 100-42-5

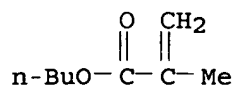
CMF C8 H8



CM 2

CRN 97-88-1

CMF C8 H14 O2



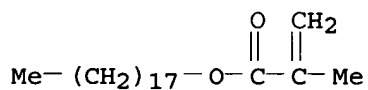
RN 32761-10-7 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, octadecyl ester, polymer with ethenylbenzene (9CI) (CA INDEX NAME)

CM 1

CRN 32360-05-7

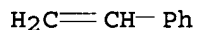
CMF C22 H42 O2



CM 2

CRN 100-42-5

CMF C8 H8



RN 37218-15-8 HCAPLUS

CN Benzene, ethenylmethyl-, polymer with ethenylbenzene (9CI) (CA INDEX NAME)

CM 1

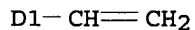
CRN 25013-15-4

CMF C9 H10

CCI IDS



D1-Me



CM 2

CRN 100-42-5

CMF C8 H8

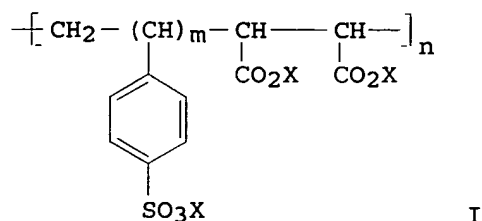
$\text{H}_2\text{C}=\text{CH}-\text{Ph}$

IC ICM B41M005-155  
 CC 74-11 (Radiation Chemistry, **Photochemistry**, and  
**Photographic** and Other Reprographic Processes)  
 IT 7440-66-6D, Zinc, reaction product with mesitylene-p-tert-  
**octylphenol**-salicylic acid copolymer 66654-19-1  
 80389-57-7 118821-59-3D, zincated  
 (color-developer, dispersed, pressure-sensitive copying paper  
 using)  
 IT 25034-86-0D, Methyl methacrylate-styrene copolymer,  
 sulfonated, sodium salt 25213-39-2D, Butyl  
 methacrylate-styrene copolymer, sulfonated, sodium salt  
 32761-10-7D, Stearyl methacrylate-styrene copolymer,  
 sulfonated, sodium salt 37218-15-8D,  
 Styrene-vinyltoluene copolymer, sulfonated, sodium salt  
 51555-38-5 62857-58-3, Sodium styrenesulfonate-vinyl acetate  
 copolymer 137013-27-5  
 (dispersing agent, for color-developer, for pressure-sensitive  
 copying paper)

L56 ANSWER 14 OF 21 HCAPLUS COPYRIGHT 2005 ACS on STN  
 ACCESSION NUMBER: 1989:85596 HCAPLUS  
 DOCUMENT NUMBER: 110:85596  
 TITLE: Aqueous suspensions for pressure-sensitive  
 copying paper  
 INVENTOR(S): Asano, Makoto; Hasegawa, Kyoharu; Takagi,  
 Masatoshi; Yamaguchi, Teruhiro; Yamaguchi,  
 Keisaburo; Tanabe, Yoshimitsu  
 PATENT ASSIGNEE(S): Mitsui Toatsu Chemicals, Inc., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	
JP 63170080	A2	19880713	JP 1987-1844	1987 0109
PRIORITY APPLN. INFO.:			JP 1987-1844	1987 0109

GI



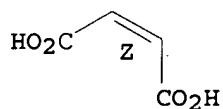
- AB The title suspensions are prepared by dispersion of polyvalent metal complexes of salicylic acid polycondensates in the presence of salts of sulfonated maleic acid-styrene copolymers I ( $m = 1-5$ ;  $n = 5-10000$ ;  $X = \text{Na}, \text{K}, \text{Cs}, \text{Rb}, \text{NH}_4$ ). These suspensions are colorless, brightly white, stably stored at wide pH range unaffected by acids, alkalis, and polyvalent metals, do not thicken or foam during dispersion process, and do not discolor by storage. Thus, a mixture of p-tert-octylphenol 206, salicylic acid 46, and 35% HCHO 85.8 g was condensed in the presence of HCl, and the product was metalated by slow addition of a mixture of 30 g Zn dipropionate and 15 g  $\text{NH}_4\text{HCO}_3$ . A mixture of 100 g the product, 20 g of a 20% solution of sulfonated 1:1 (mol) maleic acid-styrene copolymer, and  $\text{H}_2\text{O}$  was ground to obtain a suspension. A coating composition containing the suspension (18 parts solid),  $\text{CaCO}_3$  100, a SBR latex 6, oxidized starch 6, and Na poly(acrylic acid) 0.5 part was applied on paper to obtain a developer sheet for a pressure copying system, which was used with a color former sheet containing crystal violet lactone. Described advantages were observed throughout the fabrication and the use of the material.
- IT 25300-64-5D, Maleic acid-styrene copolymer, sulfonated, sodium salt  
(dispersing agent, for suspension of polyvalent metal salts of salicylic acid condensates for preparation of developer sheets for pressure copying systems)
- RN 25300-64-5 HCAPLUS
- CN 2-Butenedioic acid (2Z)-, polymer with ethenylbenzene (9CI) (CA INDEX NAME)

CM 1

CRN 110-16-7

CMF C4 H4 O4

Double bond geometry as shown.

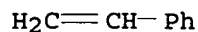


CM 2

CRN 100-42-5

CMF C8 H8





IT 118821-58-2D, zinc complex  
(suspension containing sulfonated maleic acid-styrene copolymer  
and, for preparation of developer sheet for pressure copying system)

RN 118821-58-2 HCAPLUS

CN Benzoic acid, 2-hydroxy-, polymer with formaldehyde and  
4-(1,1,3,3-tetramethylbutyl)phenol, zinc salt (9CI) (CA INDEX  
NAME)

CM 1

CRN 65733-75-7

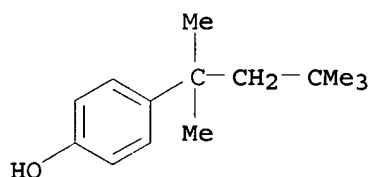
CMF (C14 H22 O . C7 H6 O3 . C H2 O)x

CCI PMS

CM 2

CRN 140-66-9

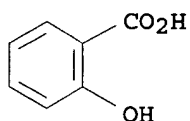
CMF C14 H22 O



CM 3

CRN 69-72-7

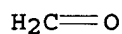
CMF C7 H6 O3



CM 4

CRN 50-00-0

CMF C H2 O



IT 118821-60-6D, zinc complex 118928-51-1D, zinc  
complex  
(suspension containing sulfonated maleic acid-styrene copolymer  
and, for preparation of developer sheet for pressure copying system,  
stability of)

RN 118821-60-6 HCAPLUS

CN Benzoic acid, 2-hydroxy-, polymer with 4-(1,1,3,3-tetramethylbutyl)phenol and 1,3,5-trimethylbenzene, zinc salt (9CI) (CA INDEX NAME)

CM 1

CRN 118821-59-3

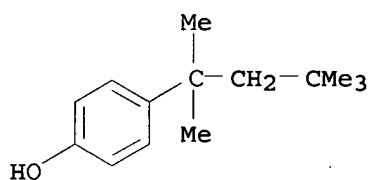
CMF (C14 H22 O . C9 H12 . C7 H6 O3)x

CCI PMS

CM 2

CRN 140-66-9

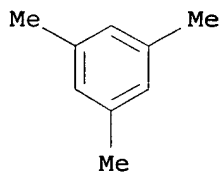
CMF C14 H22 O



CM 3

CRN 108-67-8

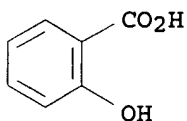
CMF C9 H12



CM 4

CRN 69-72-7

CMF C7 H6 O3



RN 118928-51-1 HCAPLUS

CN Benzoic acid, 2-hydroxy-, polymer with 1,3,5-trimethylbenzene, zinc salt (9CI) (CA INDEX NAME)

CM 1

CRN 118928-50-0

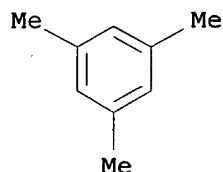
CMF (C9 H12 . C7 H6 O3)x

CCI PMS

CM 2

CRN 108-67-8

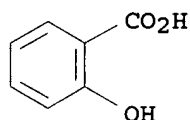
CMF C9 H12



CM 3

CRN 69-72-7

CMF C7 H6 O3



IC ICM B41M005-12

CC 74-11 (Radiation Chemistry, **Photochemistry**, and **Photographic** and Other Reprographic Processes)

IT 25300-64-5D, Maleic acid-styrene copolymer, sulfonated, sodium salt

(dispersing agent, for suspension of polyvalent metal salts of salicylic acid condensates for preparation of developer sheets for pressure copying systems)

IT 118821-58-2D, zinc complex

(suspension containing sulfonated maleic acid-styrene copolymer and, for preparation of developer sheet for pressure copying system)

IT 118821-60-6D, zinc complex 118928-51-1D, zinc complex

(suspension containing sulfonated maleic acid-styrene copolymer and, for preparation of developer sheet for pressure copying system, stability of)

L56 ANSWER 15 OF 21 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1986:543495 HCAPLUS

DOCUMENT NUMBER: 105:143495

TITLE: Multicolor electrophotographic toners

INVENTOR(S): Ikeda, Itsuo

PATENT ASSIGNEE(S): Ricoh Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.

KIND

DATE

APPLICATION NO.

DATE

JP 60233658

A2

19851120

JP 1984-90711

1984  
0507

PRIORITY APPLN. INFO.:

JP 1984-90711

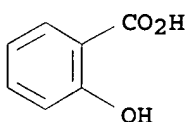
1984  
0507

AB The title toners contain, as main constituents, (1) a coloring dye which transmits selectively 1 color light of 3 primaries based on additive mixture method; (2) a decoloring promoter for the coloring dye; (3) a colorless dye which gives the additive complementary color for the coloring dye, (4) a color coformer for the colorless dye, and (5) a binder. The toners are especially useful in one-shot color electrophotog. process and can use common paper as image-receiving paper, giving color images with good preservability. Thus, a composition containing a blue dye powder prepared from 3-methylbenzo- $\beta$ -naphthospiropyran and a novolak phenolic resin, stearic acid monoglyceride, and poly(vinyl alc.) was spray-dried and the resulting core substance was coated with a composition containing N-2,4,5-trichlorophenylleucoauramine, 4,4'-(1-methylhexylidene)diphenol, and polystyrene to give blue toner for yellow color, while a green toner for magenta color and red toner for cyan color were prepared by the same manner using 3'-diethylamino-5'-methoxy-7'-dinaphthylaminofluoran and Rhodamine B lactam and 3'-diethylamino-6'-methyl-7'-dibenzylaminofluoran and N-bis(4-dimethylaminophenyl)methyl- $\beta$ -hydroxyethyl-aniline, resp. The 3 color toners were mixed with each other and used in an one-shot color electrophotog. process using a panchromatic electrophotog. photoreceptor to give clear color images.

IT 69-72-7, uses and miscellaneous 9003-53-6  
(color toner coating layer containing, for electrophotog. developers for multicolor image formation by 1-shot color process)

RN 69-72-7 HCAPLUS

CN Benzoic acid, 2-hydroxy- (9CI) (CA INDEX NAME)



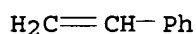
RN 9003-53-6 HCAPLUS

CN Benzene, ethenyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 100-42-5

CMF C8 H8



IC ICM G03G009-08

ICS G03G015-01

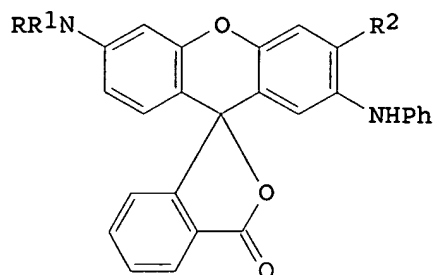
CC 74-3 (Radiation Chemistry, Photochemistry, and

Photographic and Other Reprographic Processes)  
 IT 69-72-7, uses and miscellaneous 92-84-2  
 9003-53-6 21121-62-0 24460-10-4 26206-78-0  
 41709-94-8 78132-96-4  
 (color toner coating layer containing, for electrophotog.  
 developers for multicolor image formation by 1-shot color  
 process)

L56 ANSWER 16 OF 21 HCAPLUS COPYRIGHT 2005 ACS on STN  
 ACCESSION NUMBER: 1983:622486 HCAPLUS  
 DOCUMENT NUMBER: 99:222486  
 TITLE: Heat-sensitive recording materials  
 INVENTOR(S): Taniguchi, Keishi; Iwata, Susumu; Sakamoto,  
 Hiroshi  
 PATENT ASSIGNEE(S): Ricoh Co., Ltd., Japan  
 SOURCE: Ger. Offen., 28 pp.  
 CODEN: GWXXBX  
 DOCUMENT TYPE: Patent  
 LANGUAGE: German  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO. -----	KIND ----	DATE -----	APPLICATION NO. -----	DATE
DE 3245660	A1	19830623	DE 1982-3245660	1982 1209
DE 3245660	C2	19840223		
JP 58098286	A2	19830611	JP 1981-197923	1981 1209
US 4486763	A	19841204	US 1982-446086	1982 1201
FR 2517599	A1	19830610	FR 1982-20655	1982 1209
FR 2517599	B1	19840713		
GB 2112161	A1	19830713	GB 1982-35198	1982 1209
GB 2112161	B2	19850724		
PRIORITY APPLN. INFO.:			JP 1981-197923	A 1981 1209

GI

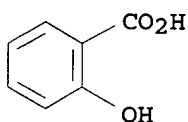


AB Heat-sensitive recording materials giving high d. images in a high-speed recording process, showing no discoloration upon rubbing or application of pressure, having a good storage stability, and showing essentially no dust buildup on the thermal head during recording contain a colorless or slightly colored fluoran (I; R = C5-8 alkyl; R1 = C1-8 alkyl; R2 = C1-2 alkyl), an acid material as developer, and a benzamide derivative. Thus, a mixture containing 1 part of a ball-milled dispersion containing 3-methyl-n-amylamino-6-methyl-7-anilino-fluoran 20, 10% aqueous hydroxyethylcellulose 20, and water 60 parts, 4 parts of a ball-milled dispersion containing 2,2'-bis(4-hydroxyphenyl)propane 20, 10% aqueous hydroxyethylcellulose 20, and water 20 parts, 2 parts of a ball-milled dispersion containing N-dodecylbenzamide 20 and 5% aqueous methylcellulose 60 parts, and 2 parts 20% aqueous poly(vinyl alc.) was coated on a paper sheet (60 g/m<sup>2</sup>) at 6.0 g/m<sup>2</sup> dry and then recorded on in a RIFAX-3300 facsimile apparatus to give an image d. of 1.20. When recorded on for 24 h, no dust was observed on the thermal head and clear images were still obtainable.

IT 69-72-7, uses and miscellaneous 9003-53-6  
(thermal recording materials with heat-sensitive layer containing benzamide derivative and fluoran derivative and)

RN 69-72-7 HCAPLUS

CN Benzoic acid, 2-hydroxy- (9CI) (CA INDEX NAME)



RN 9003-53-6 HCAPLUS

CN Benzene, ethenyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 100-42-5

CMF C8 H8

H<sub>2</sub>C=CH-Ph

IC B41M005-18

CC 74-12 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

Section cross-reference(s): 27

- IT Acids, uses and miscellaneous  
 Acrylic polymers, uses and miscellaneous  
 Phenols, uses and miscellaneous  
 (thermal recording materials with heat-sensitive layer containing benzamide derivative and fluoran derivative and)
- IT 50-85-1 57-11-4, uses and miscellaneous 65-85-0, uses and miscellaneous 69-72-7, uses and miscellaneous 77-40-7  
 77-92-9, uses and miscellaneous 79-96-9 80-05-7, uses and miscellaneous 83-30-7 86-48-6 87-66-1 87-69-4, uses and miscellaneous 89-83-8 90-15-3 98-54-4 99-06-9, uses and miscellaneous 99-76-3 99-93-4 108-46-3, uses and miscellaneous 108-68-9 108-73-6 110-15-6, uses and miscellaneous 110-16-7, uses and miscellaneous 119-47-1  
 120-80-9, uses and miscellaneous 123-31-9, uses and miscellaneous 135-19-3, uses and miscellaneous 144-62-7, uses and miscellaneous 149-91-7, uses and miscellaneous 471-34-1, uses and miscellaneous 637-12-7 1139-46-4 1309-48-4, uses and miscellaneous 1344-28-1, uses and miscellaneous 1806-29-7  
 7631-86-9, uses and miscellaneous 7727-43-7 7790-93-4  
 9002-89-5 9003-22-9 9003-53-6 9003-63-8 9004-62-0  
 9004-67-5 9011-05-6 14807-96-6, uses and miscellaneous  
 (thermal recording materials with heat-sensitive layer containing benzamide derivative and fluoran derivative and)

L56 ANSWER 17 OF 21 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1983:134200 HCAPLUS

DOCUMENT NUMBER: 98:134200

TITLE: Voltammetric studies using a Hyamine 2389-polystyrene-filmed electrode

AUTHOR(S): Franklin, Thomas C.; Ohta, Masahiro

CORPORATE SOURCE: Chem. Dep., Baylor Univ., Waco, TX, 76798, USA

SOURCE: Surface Technology (1983), 18(1), 63-76

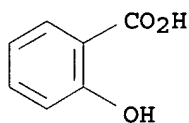
CODEN: SUTED8; ISSN: 0376-4583

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The effect was studied of the surfactant Hyamine 2389 (predominantly methyl dodecyl benzyl trimethyl ammonium chloride) on the electrooxidn. of organic compds. when the Hyamine was immobilized on the electrode in a polymeric film. Cyclic voltammetric measurements showed that the Hyamine mols. in the film adjacent to the electrode could be reorganized by sweeping the potential in the cathodic direction past a desorption peak. The O evolution potential on Pt in aqueous NaOH increased from 0.7 V with no additive present and 1.7 V with Hyamine present in solution to 2.0 V in the presence of the immobilized hydrophobic film. The polystyrene-Hyamine-filmed electrode was more convenient to use than Hyamine in solution in that the residual current was very low and the electrode was so stable that it could be moved to other solns. and be used in acid systems. Both soluble and insol. substances could be oxidized on the electrode. Insol. substances apparently adhere to the tacky polymer electrode. The oxidation of compds. such as p-bromophenol forms insol. passive films which can be removed by introducing solubilizing Hyamine micelles into the system. Although the oxidation potentials indicate that a number of compds. in the base are oxidized by a mediated mechanism involving chemical oxidation of the compds. by electrochem. oxidized Hyamine, the number of compds. in basic solns. and the inorg. compds. in acidic solns. were indicated to be oxidized by an electron transfer mechanism.

IT 69-72-7, reactions  
 (oxidation of, electrochem., on platinum with polystyrene film  
 containing Hyamine 2389)  
 RN 69-72-7 HCAPLUS  
 CN Benzoic acid, 2-hydroxy- (9CI) (CA INDEX NAME)



IT 9003-53-6  
 (platinum electrode with Hyamine 2389-containing film of,  
 voltammetric studies using)  
 RN 9003-53-6 HCAPLUS  
 CN Benzene, ethenyl-, homopolymer (9CI) (CA INDEX NAME)  
 CM 1  
 CRN 100-42-5  
 CMF C8 H8

$\text{H}_2\text{C}=\text{CH}-\text{Ph}$

CC 72-2 (Electrochemistry)  
 Section cross-reference(s): 22  
 IT 62-56-6, reactions 63-74-1 65-85-0, reactions 69-72-7  
 , reactions 73-24-5, reactions 76-93-7, reactions 88-65-3  
 90-64-2 91-01-0 95-54-5, reactions 95-82-9 97-02-9  
 98-92-0 99-04-7 99-94-5 99-96-7, reactions 100-09-4  
 100-10-7 100-21-0, reactions 106-41-2 118-90-1 118-92-3  
 140-10-3, reactions 150-13-0 555-16-8, reactions 579-75-9  
 586-76-5 589-18-4 619-73-8 7647-15-6, reactions 7681-82-5,  
 reactions 7772-99-8, reactions  
 (oxidation of, electrochem., on platinum with polystyrene film  
 containing Hyamine 2389)  
 IT 9003-53-6  
 (platinum electrode with Hyamine 2389-containing film of,  
 voltammetric studies using)

L56 ANSWER 18 OF 21 HCAPLUS COPYRIGHT 2005 ACS on STN  
 ACCESSION NUMBER: 1982:208440 HCAPLUS  
 DOCUMENT NUMBER: 96:208440  
 TITLE: Heat-sensitive recording material  
 INVENTOR(S): Kubo, Keishi; Kawamura, Eiichi  
 PATENT ASSIGNEE(S): Ricoh Co., Ltd., Japan  
 SOURCE: Ger. Offen., 41 pp.  
 CODEN: GWXXBX  
 DOCUMENT TYPE: Patent  
 LANGUAGE: German  
 FAMILY ACC. NUM. COUNT: 2  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	
-----				



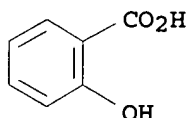
DE 3119053	A1	19820211	DE 1981-3119053	1981 0513
DE 3119053	C2	19830721		
JP 56169087	A2	19811225	JP 1980-62312	1980 0513
JP 58034313	B4	19830726		
JP 57008193	A2	19820116	JP 1980-82167	1980 0619
JP 58034316	B4	19830726		
PRIORITY APPLN. INFO.:			JP 1980-62312	A 1980 0513
			JP 1980-82167	A 1980 0619

AB Heat-sensitive recording materials are described which produce high d. images with a sharp contrast with the application of only a relatively low amount of energy. These materials consist of a support coated with a heat-sensitive layer containing a colorless or only slightly colored leuco dye, an acid, and an amide. The addition of a dialkyl 4,5-epoxycyclohexane-1,2-dicarboxylate to the heat-sensitive layer improves the resistance of the layer to pressure or rubbing. Thus, a high quality paper sheet was drawbar coated with a heat-sensitive dispersion prepared by mixing a dispersion containing 3-pyrrolidino-6-methyl-7-anilino-fluoran 5.7, 10% aqueous poly(vinyl alc.) 25.0, and water 19.8 parts and a dispersion containing Bisphenol A 21.0, hydroxyethyl cellulose 2.7, N-cyclohexylstearamide 8.0, and water 18.3 parts at 5.6 g/m<sup>2</sup>, dried, and imaged in a thermoprinter with a thermal printing head operating at 110° (1.03 mJ at 14 V) to give a clear image with a d. of 0.8.

IT 69-72-7, uses and miscellaneous  
(heat-sensitive recording composition containing amide and, for improved image d. and contrast)

RN 69-72-7 HCAPLUS

CN Benzoic acid, 2-hydroxy- (9CI) (CA INDEX NAME)



IT 9003-53-6  
(heat-sensitive recording compns. containing amide and, for improved image d. and contrast)

RN 9003-53-6 HCAPLUS

CN Benzene, ethenyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 100-42-5

CMF C8 H8

H<sub>2</sub>C=CH-Ph

IC B41M005-26  
 CC 74-7 (Radiation Chemistry, **Photochemistry**, and **Photographic** and Other Reprographic Processes)  
 IT Acrylic polymers, uses and miscellaneous  
 Alkanes, uses and miscellaneous  
 Gelatins, uses and miscellaneous  
 Linseed oil  
 Paraffin waxes and Hydrocarbon waxes, uses and miscellaneous  
**Phenols**, uses and miscellaneous  
 Tung oil  
 (heat-sensitive recording compns. containing amide and, for improved image d. and contrast)  
 IT 50-85-1 57-11-4, uses and miscellaneous 65-85-0, uses and miscellaneous 69-72-7, uses and miscellaneous 77-92-9, uses and miscellaneous 86-48-6 87-69-4, uses and miscellaneous 99-06-9, uses and miscellaneous 110-15-6, uses and miscellaneous 110-16-7, uses and miscellaneous 144-62-7, uses and miscellaneous 149-91-7, uses and miscellaneous 10043-35-3  
 (heat-sensitive recording composition containing amide and, for improved image d. and contrast)  
 IT 77-40-7 79-96-9 80-05-7, uses and miscellaneous 83-30-7 87-66-1 89-83-8 90-15-3 98-54-4 99-76-3 99-93-4 108-46-3, uses and miscellaneous 108-68-9 108-73-6 119-47-1 120-80-9, uses and miscellaneous 123-31-9, uses and miscellaneous 135-19-3, uses and miscellaneous 471-34-1, uses and miscellaneous 1139-46-4 1309-48-4, uses and miscellaneous 1344-28-1, uses and miscellaneous 1806-29-7 7631-86-9, uses and miscellaneous 7727-43-7 9002-89-5 9003-01-4 9003-05-8 9003-22-9 9003-39-8 **9003-53-6** 9003-63-8 9004-32-4 9004-62-0 9004-67-5 9005-25-8, uses and miscellaneous 14807-96-6, uses and miscellaneous 20217-26-9, uses and miscellaneous 55772-72-0  
 (heat-sensitive recording compns. containing amide and, for improved image d. and contrast)

L56 ANSWER 19 OF 21 HCAPLUS COPYRIGHT 2005 ACS on STN  
 ACCESSION NUMBER: 1975:594293 HCAPLUS  
 DOCUMENT NUMBER: 83:194293  
 TITLE: Surface treatment of oxide particles  
 INVENTOR(S): Yanazawa, Hiroshi; Ashikawa, Mikio; Hashimoto, Norikazu  
 PATENT ASSIGNEE(S): Hitachi, Ltd., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 3 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 50018396	A2	19750226	JP 1973-69786	1973 0622

PRIORITY APPLN. INFO.: JP 1973-69786 A

1973  
0622

AB Affinity of oxide particles for organic compds. and polymers was improved by treating oxide with solns. containing both alc. and **phenol** derivative For example, silica [7631-86-9] was autoclaved with a mixture of 10 g **phenol** [108-95-2], 13 ml n-octanol [111-87-5], and 60 ml n-hexane at 255° and 30 atm for 30 min to give a product with good dispersibility in polystyrene [9003-53-6] and **phenolic** novolak. Similarly titanium dioxide [13463-67-7] was treated with butanol [71-36-3] and salicylic acid [69-72-7].

IT 9003-53-6

(alc.- and **phenol**- treated silica and titanium dioxide fillers with improved dispersibility in)

RN 9003-53-6 HCAPLUS

CN Benzene, ethenyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 100-42-5

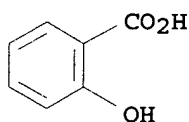
CMF C8 H8

 $\text{H}_2\text{C}=\text{CH}-\text{Ph}$ 

IT 69-72-7D, Benzoic acid, 2-hydroxy-, reaction products with titanium dioxide and butanol  
(fillers, with improved dispersibility, in polystyrene and phenolic resins)

RN 69-72-7 HCAPLUS

CN Benzoic acid, 2-hydroxy- (9CI) (CA INDEX NAME)



INCL 15F0; 15F13; 15F26; 15F24

CC 36-2 (Plastics Manufacture and Processing)

IT 9003-53-6

(alc.- and **phenol**- treated silica and titanium dioxide fillers with improved dispersibility in)

IT 69-72-7D, Benzoic acid, 2-hydroxy-, reaction products with titanium dioxide and butanol 71-36-3D, 1-Butanol, reaction products with titanium dioxide and salicylic acid 108-95-2D, Phenol, reaction products with silica and octanol 111-87-5D, 1-Octanol, reaction products with silica and phenol 7631-86-9D, Silica, reaction products with phenol and octanol 13463-67-7D, Titanium oxide (TiO<sub>2</sub>), reaction products with butanol and salicylic acid  
(fillers, with improved dispersibility, in polystyrene and phenolic resins)

L56 ANSWER 20 OF 21 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1975:105233 HCAPLUS

DOCUMENT NUMBER: 82:105233

TITLE: Receptor sheets for pressure-sensitive copy papers  
 INVENTOR(S): Oda, Shiniehi; Saito, Toranosuke; Hohno, Jujiro; Tanaka, Daichiro  
 PATENT ASSIGNEE(S): Sanko Chemical Co., Ltd.; Kanzaki Paper Mfg. Co., Ltd.  
 SOURCE: Fr., 41 pp.  
 CODEN: FRXXAK  
 DOCUMENT TYPE: Patent  
 LANGUAGE: French  
 FAMILY ACC. NUM. COUNT: 2  
 PATENT INFORMATION:

PATENT NO. -----	KIND ----	DATE -----	APPLICATION NO. -----	DATE
FR 2200785	A5	19740419	FR 1973-34359	1973 0925
JP 49050484	A2	19740516	JP 1972-94730	1972 0920
JP 52009304	B4	19770315	JP 1972-94730	A 1972 0927

PRIORITY APPLN. INFO.: A

AB To obtain copies of superior mech., thermal, and humidity stability on contact with sheets carrying microencapsulated leuco compds., the >2 g/m<sup>2</sup> coatings contain an aromatic o-hydroxycarboxylic acid, preferably with ≥17 C atoms, or a polyvalent metal salt thereof, with 15-300% of a compatible polymer, having a mol. weight of >400, and 5-1000% of a mineral pigment, such as kaolin, Al silicate, or SiO<sub>2</sub>. Acid and polymer may be mixed in the fused, solvent, or aqueous latex state, or acid and a vinyl monomer may be copolymerized. Thus, polystyrene (mol. weight of .apprx.1000) 100 parts, Al 5-cyclohexyl-3-(α,α-dimethylbenzyl)salicylate 50, and kaolin 300 parts were fused at 180°, ground, and ballmilled for 20 hr in 520 parts of 20% aqueous poly(vinyl alc.). After mixing with a 50% solids styrene-butadiene copolymer latex 20 parts the coating was applied to 50 g/m<sup>2</sup> paper at 10 g dry weight) per m<sup>2</sup>.

IT 9003-53-6 25820-85-3  
 (binder, for pressure-sensitive copying receptor sheets containing salicylic acid derivs. and mineral pigments)

RN 9003-53-6 HCAPLUS

CN Benzene, ethenyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 100-42-5

CMF C8 H8

H<sub>2</sub>C=CH-Ph

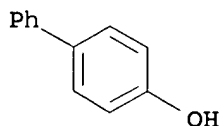
RN 25820-85-3 HCAPLUS

CN Formaldehyde, polymer with [1,1'-biphenyl]-4-ol (9CI) (CA INDEX NAME)

CM 1

CRN 92-69-3

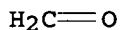
CMF C12 H10 O



CM 2

CRN 50-00-0

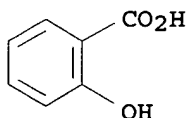
CMF C H2 O



IT 69-72-7, uses and miscellaneous  
(pressure-sensitive copying receptors sheets containing mineral  
pigments and)

RN 69-72-7 HCAPLUS

CN Benzoic acid, 2-hydroxy- (9CI) (CA INDEX NAME)



IC B41M

CC 74-8 (Radiation Chemistry, Photochemistry, and Photographic  
Processes)

IT 9003-22-9 9003-53-6 9003-54-7 9003-55-8 9011-11-4

25014-31-7 25119-62-4 25820-85-3 26634-88-8

26810-06-0

(binder, for pressure-sensitive copying receptor sheets containing  
salicylic acid derivs. and mineral pigments)

IT 69-72-7, uses and miscellaneous 16283-36-6 41699-26-7

41699-32-5 41699-33-6 53721-15-6 53721-16-7 53769-91-8

53769-92-9 53769-93-0 53822-90-5 53822-91-6 53822-92-7

53822-93-8

(pressure-sensitive copying receptors sheets containing mineral  
pigments and)

L56 ANSWER 21 OF 21 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1966:401289 HCAPLUS

DOCUMENT NUMBER: 65:1289

ORIGINAL REFERENCE NO.: 65:210b-c

TITLE: Copy paper

PATENT ASSIGNEE(S): Etablissement Consulting

SOURCE: 8 pp.

DOCUMENT TYPE: Patent

LANGUAGE: Unavailable  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

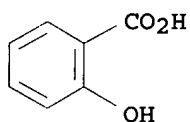
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
GB 1014392		19651222	GB	
DE 1218476			DE	
PRIORITY APPLN. INFO.:			IT	
				1960
				1223

AB Copy papers are described comprising a carrier sheet with a donor layer on one face and an acceptor layer on the other. The donor layer contains a binding agent, plasticizer, inorg. filler, pigment, and organic fixative, and the acceptor layer a binding agent and plasticizer. A solution for a donor layer is prepared in a ball mill from 4 parts poly(vinyl acetate) (mol. weight 60,000) and 2 parts gallic acid in 44 parts of 94% EtOH. A paste is prepared in a 3-roller mill from C black 20, di-Bu phthalate 5, castor oil 15, CaSO<sub>4</sub> 20, ZnO 10, ethylene glycol mono-Me ether 15, and BuOH 15%. The paste is dispersed in the solution in the proportion of 1:1. This mass is applied to a carrier sheet of paper, as in the production of C paper, to which it fixes itself on drying. An acceptor layer is prepared by stirring 39% H<sub>2</sub>O and 40% of 94% EtOH in turn into 1% Na lauryl sulfate and 20% of a 50% emulsion polymerization product of 70 parts by weight Me methacrylate with 30 parts Bu acrylate. The composition is applied to a carrier sheet and evaporated

IT 69-72-7, Salicylic acid  
 (copying paper (pressure-sensitive) containing binding agent, pigment and)

RN 69-72-7 HCAPLUS

CN Benzoic acid, 2-hydroxy- (9CI) (CA INDEX NAME)



IT 9003-53-6, Styrene polymers  
 (copying paper (pressure-sensitive) containing pigment, organic fixatives and pressure-sensitive)

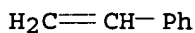
RN 9003-53-6 HCAPLUS

CN Benzene, ethenyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 100-42-5

CMF C8 H8



IC B41M; D21H

CC 11 (Radiation Chemistry and Photochemistry)

IT 82-64-4, Resorcinol, 2,4-dibenzoyl- 85-19-8, Benzophenone,

5-chloro-2-hydroxy- 87-66-1, Pyrogallol 118-55-8, Salicylic  
acid, phenyl ester 149-91-7, Gallic acid 536-08-3, Gallic  
acid, 3-gallate 10555-79-0, Phenol, p-butyl-,  
salicylate  
(copying paper (pressure-sensitive) containing binding agent and)  
IT 65-85-0, Benzoic acid 69-72-7, Salicylic acid 88-99-3,  
Phthalic acid 108-95-2, Phenol  
(copying paper (pressure-sensitive) containing binding agent,  
pigment and)  
IT 9003-53-6, Styrene polymers  
(copying paper (pressure-sensitive) containing pigment, organic  
fixatives and pressure-sensitive)